AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON JANUARY 28, 1997
REGISTRATION NO. 333-15415

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 4
TO
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

AASTROM BIOSCIENCES, INC.
(Exact name of registrant as specified in its charter)

MICHIGAN	2834	94-3096597
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(IRS Employer Identification No.)

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24 FRANK LLOYD WRIGHT DRIVE
P.O. BOX 376
ANN ARBOR, MICHIGAN 48106
(313) 930-5555
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

R. DOUGLAS ARMSTRONG, PH.D.
PRESIDENT, CHIEF EXECUTIVE OFFICER
AASTROM BIOSCIENCES, INC.
24 FRANK LLOYD WRIGHT DRIVE
P.O. BOX 376
ANN ARBOR, MICHIGAN 48106
(313) 930-5555
(Name, address, including zip code, and telephone number, including area code, of agent for service)

COPIES TO:

T. KNOX BELL, ESQ.	RICHARD R. PLUMRIDGE, ESQ.
DOUGLAS J. REIN, ESQ.	MICHAEL A. CONZA, ESQ.
MATT KIRMAYER, ESQ.	BROBECK, PHLEGER & HARRISON LLP
DAYNA J. PINEDA, ESQ.	1633 BROADWAY
GRAY CARY WARE & FREIDENRICH	NEW YORK, NEW YORK 10019
4365 EXECUTIVE DRIVE, SUITE 1600	
SAN DIEGO, CALIFORNIA 92121	

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. [_]

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [_]

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [_]

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. [_]

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission acting pursuant to said Section 8(a), may determine.

+INFORMATION CONTAINED HEREIN IS SUBJECT TO COMPLETION OR AMENDMENT. A REGISTRATION STATEMENT RELATING TO THESE SECURITIES HAS BEEN FILED WITH THE SECURITIES AND EXCHANGE COMMISSION. THESE SECURITIES MAY NOT BE SOLD NOR MAY OFFERS TO BUY BE ACCEPTED PRIOR TO THE TIME THE REGISTRATION STATEMENT BECOMES EFFECTIVE. THIS PROSPECTUS SHALL NOT CONSTITUTE AN OFFER TO SELL OR THE SOLICITATION OF AN OFFER TO BUY NOR SHALL THERE BE ANY SALE OF THESE SECURITIES IN ANY STATE IN WHICH SUCH OFFER, SOLICITATION OR SALE WOULD BE UNLAWFUL PRIOR TO REGISTRATION OR QUALIFICATION UNDER THE SECURITIES LAWS OF ANY SUCH STATE.

PROSPECTUS (Subject to Completion)

Dated January 28, 1997

3,250,000 Shares

[LOGO OF AASTROM BIOSCIENCES INC.]

Common Stock

All of the shares of Common Stock, no par value per share (the "Common Stock"), offered are being sold by Aastrom Biosciences, Inc. ("Aastrom" or the "Company").

Prior to this offering, there has been no public market for the Common Stock of the Company. It is currently estimated that the initial public offering price will be between $8.00 and $10.00 per share. See "Underwriting" for a discussion of the factors considered in determining the initial public offering price. The Common Stock has been approved for quotation on the Nasdaq National Market under the symbol "ASTM".

Cobe Laboratories, Inc. has agreed to purchase $5,000,000 of shares of Common Stock in this offering at the Price to the Public set forth below. See "Certain Transactions."

THIS OFFERING INVOLVES A HIGH DEGREE OF RISK. SEE "RISK FACTORS" BEGINNING ON PAGE 5 OF THIS PROSPECTUS.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

	Price to Public	Underwriting Discounts and Commissions(1)	Proceeds to Company(2)
Per Share.....	$	$	$
Total(3).....	$	$	$

(1) The Company has agreed to indemnify the Underwriters against certain liabilities, including liabilities under the Securities Act of 1933. See "Underwriting."
(2) Before deducting expenses payable by the Company, estimated to be $900,000.
(3) The Company has granted to the Underwriters an option, exercisable within 30 days of the date hereof, to purchase an aggregate of up to 487,500 additional shares at the Price to Public less Underwriting Discounts and Commissions to cover over-allotments, if any. If all such additional shares are purchased, the total Price to Public, Underwriting Discounts and Commissions and Proceeds to Company will be $, $ and $, respectively. See "Underwriting."

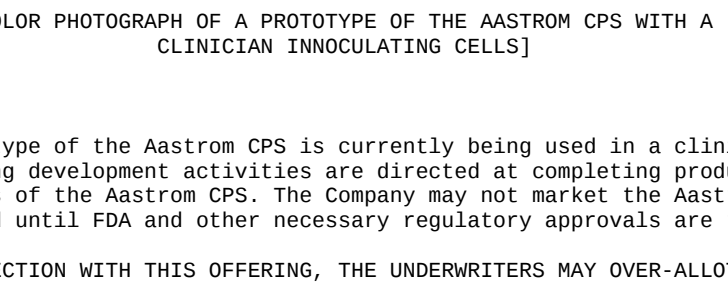
The Common Stock is offered by the several Underwriters named herein when, as and if received and accepted by them, subject to their right to reject orders in whole or in part and subject to certain other conditions. It is expected that delivery of the certificates for the shares will be made at the offices of Cowen & Company, New York, New York, on or about , 1997.

COWEN & COMPANY

J.P. MORGAN & CO.

, 1997

[COLOR FLOW CHART DEPICTING "STEM CELL THERAPY METHODS" DESCRIBING STEM CELL THERAPY UTILIZING BONE MARROW HARVEST, PROGENITOR BLOOD CELL MOBILIZATION AND THE AASTROM CPS]



A prototype of the Aastrom CPS is currently being used in a clinical trial and ongoing development activities are directed at completing production level components of the Aastrom CPS. The Company may not market the Aastrom CPS unless and until FDA and other necessary regulatory approvals are received.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE COMMON STOCK OFFERED HEREBY AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH TRANSACTIONS MAY BE EFFECTED ON THE NASDAQ NATIONAL MARKET, IN THE OVER-THE-COUNTER MARKET OR OTHERWISE. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

PROSPECTUS SUMMARY

The following summary is qualified in its entirety by the more detailed information and financial statements, including the notes thereto, appearing elsewhere in this Prospectus. Prospective investors should carefully consider the information set forth under the heading "Risk Factors."

THE COMPANY

Aastrom Biosciences, Inc. is developing proprietary process technologies and devices for a range of cell therapy applications, including stem cell therapies and gene therapy. The Company's lead product under development, the Aastrom Cell Production System (the "Aastrom CPS") consists of a clinical cell culture system with disposable cassettes and reagents for use in the rapidly growing stem cell therapy market. The Company believes that the Aastrom CPS method will be less costly, less invasive and less time consuming than currently available stem cell collection methods. The Aastrom CPS is designed as a platform product which implements the Company's pioneering stem cell replication technology. The Company also believes that the Aastrom CPS can be modified to produce a wide variety of other cell types for new, emerging therapies being developed by others. Prior to commencement of multiple-site pivotal trials, the Company is conducting a limited pre-pivotal trial of the Aastrom CPS under an Investigational Device Exemption for use in stem cell therapy. The Company has entered into a strategic collaboration for the development of the Aastrom CPS in stem cell therapy with Cobe BCT, Inc., a subsidiary of Gambro AB and a leading provider of blood cell processing products. In ex vivo gene therapy, the genetic manipulation of cells outside of the body for use in therapy, the Company is developing proprietary processes and the Aastrom CPS to enable high efficiency genetic modification and production of cells, respectively.

Stem cell therapy is a rapidly growing form of cell therapy used to restore blood and immune system function to cancer patients following chemotherapy or radiation therapy. According to an industry source, approximately 32,000 stem cell therapy procedures were completed worldwide in 1995. Other novel cell therapies are under development by third parties, including stem cell therapy for the treatment of autoimmune diseases and for augmenting recipient acceptance of organ transplants. Current stem cell therapy methods, including bone marrow harvest and peripheral blood progenitor cell mobilization, are costly, invasive and time-consuming for both medical personnel and patients. Technologies which facilitate a more readily available source of cells may contribute to additional growth in cell therapy procedures. Umbilical cord blood ("UCB") is emerging as a new source of cells for stem cell therapy, offering additional market opportunity, although the more widespread use of UCB transplants has been restricted by cell quantity limitations, which the Company believes may ultimately be addressed by the Aastrom CPS.

The Company believes that the Aastrom CPS will offer significant advantages over traditional stem cell collection methods. The Aastrom CPS is intended to be used to produce cells used for therapy from a small starting volume of bone marrow cells. Compared with current methods, the Aastrom CPS is expected to involve two patient care episodes rather than approximately eight to 21 care episodes, less than three hours of patient procedure time rather than approximately 16 to 39 hours of patient procedure time and approximately four to ten needle sticks rather than 22 or more needle sticks over the course of collection and infusion. The Aastrom CPS may also permit higher and more frequent doses of chemotherapy to be administered to cancer patients by enabling the production of multiple doses of cells from patient samples taken at the initial collection.

Aastrom is currently conducting a pre-pivotal stem cell therapy trial. The trial is designed to show that cells produced in the Aastrom CPS can by themselves safely enable recovery of bone marrow and cells of the blood and immune systems in accordance with trial endpoints in patients who have received chemotherapy which has destroyed cells of the blood and immune systems. Pending a positive outcome of this and other related trials, the Company intends to seek FDA approval to begin a multi-center pivotal trial for use of the Aastrom CPS in stem cell therapy. It is anticipated that the results of this pivotal trial will be used to support the Company's Pre-Market Approval ("PMA") submission to the FDA. In the near future, the Company plans to initiate a stem cell therapy clinical trial in Europe, the results of which, if positive, are expected to be used for the CE Mark registration necessary to market the Aastrom CPS in Europe. The Company may not market the Aastrom CPS unless and until FDA and other necessary regulatory approvals are received.

The Company's business strategy is to: (i) establish a consumable-based business model; (ii) focus initially on the currently-reimbursed stem cell therapy market; (iii) leverage Aastrom's cell production technology across multiple cell therapy market opportunities; and (iv) market through collaborative relationships.

Aastrom has entered into a strategic collaboration with Cobe BCT to support the development and marketing of the Aastrom CPS in the field of stem cell therapy. In 1993, the Company entered into a series of agreements in which Cobe BCT purchased $15,000,000 of the Company's equity securities and acquired the worldwide distribution rights to the Aastrom CPS for stem cell therapy. Under the terms of the collaboration, Aastrom retains manufacturing rights and 58% to

62% of all revenue generated by Cobe BCT's sale of the Aastrom CPS, subject to the Company's obligation to make certain royalty payments. Aastrom also retains all marketing and distribution rights to the Aastrom CPS for other cell types and ex vivo gene therapy applications, including stem cells. Cobe Laboratories Inc., an affiliate of Cobe BCT, has agreed to purchase $5,000,000 of Common Stock in this offering at the initial public offering price per share.

The Company's patent portfolio includes patents relating to both stem and progenitor cell production, processes for the genetic modification of stem and other cell types, and cell culture devices for human cells. As of September 30, 1996, the Company had exclusive rights to five issued U.S. and three foreign patents, and a number of U.S. patent applications and certain corresponding foreign applications.

THE OFFERING

Common Stock offered	3,250,000 shares(1)
Common Stock to be outstanding after this offering	13,244,899 shares(2)
Use of proceeds	For clinical trials, the development and manufacture of the Aastrom CPS, research and development of other product candidates, working capital and other general corporate purposes.
Proposed Nasdaq National Market symbol	ASTM

SUMMARY FINANCIAL DATA

	YEAR ENDED JUNE 30,					THREE MONTHS ENDED SEPTEMBER 30,	
	1992	1993	1994	1995	1996	1995	1996
STATEMENT OF OPERATIONS DATA:							
Total revenues	$ --	$ 784,000	$ 872,000	$ 517,000	$ 1,609,000	$ 211,000	$ 224,000
Costs and expenses:							
Research and development	1,090,000	2,600,000	5,627,000	4,889,000	10,075,000	1,195,000	3,160,000
General and administrative	272,000	1,153,000	1,565,000	1,558,000	2,067,000	446,000	452,000
Total costs and expenses	1,362,000	3,753,000	7,192,000	6,447,000	12,142,000	1,641,000	3,612,000
Other income, net	94,000	122,000	180,000	213,000	616,000	131,000	115,000
Net loss	$(1,268,000)	$(2,847,000)	$(6,140,000)	$(5,717,000)	$(9,917,000)	$(1,299,000)	$(3,273,000)
Pro forma net loss per share(3)					$ (.98)		$ (.32)
Pro forma weighted average number of shares outstanding(3)					10,103,000		10,107,000

	SEPTEMBER 30, 1996	
	ACTUAL	AS ADJUSTED(4)
BALANCE SHEET DATA:		
Cash, cash equivalents and short-term investments	$ 7,108,000	$33,410,500
Working capital	6,540,000	32,842,500
Total assets	8,931,000	35,233,500
Deficit accumulated during the development stage	(30,298,000)	(30,298,000)
Total shareholders' equity	7,618,000	33,920,500

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(1) Includes 555,556 shares which Cobe Laboratories, Inc. has agreed to purchase, assuming an initial public offering price of $9.00 per share.

(2) Excludes options and warrants to purchase 1,123,196 shares of Common Stock at a weighted average exercise price of $6.55 per share, assuming the closing of this offering at an initial public offering price of $9.00 per share. See "Management--Stock Option and Employee Benefit Plans" and Notes 4 and 9 of Notes to Financial Statements.

(3) See Note 1 of Notes to Financial Statements for information concerning the computation of pro forma net loss per share and shares used in computing pro forma net loss per share.

(4) Adjusted to reflect the sale by the Company of 3,250,000 shares of Common Stock offered hereby at an assumed initial public offering price of $9.00 per share, after deduction of underwriting discounts and commissions and estimated offering expenses. See "Use of Proceeds" and "Capitalization."

Unless otherwise indicated, all information contained in this Prospectus (i) gives effect to a two-for-three reverse stock split to be effected prior to the closing of this offering, (ii) gives effect to the conversion of all outstanding shares of the Company's Preferred Stock into 8,098,422 shares of Common Stock upon the closing of this offering, (iii) gives effect to the filing of an Amended and Restated Articles of Incorporation upon the closing of this offering to, among other things, create a new class of undesignated preferred stock and (iv) assumes no exercise of the Underwriters' over-

allotment option. See "Description of Capital Stock" and "Underwriting." This Prospectus contains forward-looking statements which involve risks and uncertainties. The Company's actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in "Risk Factors."

RISK FACTORS

In addition to the other information in this Prospectus, prospective investors should consider the following risk factors in evaluating the Company and its business before purchasing any of the Common Stock offered hereby.

UNCERTAINTIES RELATED TO PRODUCT DEVELOPMENT AND MARKETABILITY

The Company has not completed the development or clinical trials of any of its cell culture technologies or product candidates and, accordingly, has not begun to market or generate revenue from their commercialization. Furthermore, the Company's technologies and product candidates are based on cell culture processes and methodologies which are not widely employed. Commercialization of the Company's lead product candidate, the Aastrom CPS, will require substantial additional research and development by the Company as well as substantial clinical trials. There can be no assurance that the Company will successfully complete development of the Aastrom CPS or its other product candidates, or successfully market its technologies or product candidates, which lack of success would have a material adverse effect on the Company's business, financial condition and results of operations.

The Company or its collaborators may encounter problems and delays relating to research and development, regulatory approval and intellectual property rights of the Company's technologies and product candidates. There can be no assurance that the Company's research and development programs will be successful, that its cell culture technologies and product candidates will facilitate the ex vivo production of cells with the expected biological activities in humans, that its technologies and product candidates, if successfully developed, will prove to be safe and efficacious in clinical trials, that the necessary regulatory approvals for any of the Company's technologies or product candidates and the cells produced in such products will be obtained or, if obtained, will be as broad as sought, that patents will issue on the Company's patent applications or that the Company's intellectual property protections will be adequate. The Company's product development efforts are primarily directed toward obtaining regulatory approval to market the Aastrom CPS as an alternative to the bone marrow harvest and peripheral blood progenitor cell ("PBPC") stem cell collection methods. These stem cell collection methods have been widely practiced for a number of years, and there can be no assurance that any of the Company's technologies or product candidates will be accepted by the marketplace as readily as these or other competing processes and methodologies, or at all. The failure by the Company to achieve any of the foregoing would have a material adverse effect on the Company's business, financial condition and results of operations.

UNCERTAINTIES RELATED TO CLINICAL TRIALS

The approval of the United States Food and Drug Administration (the "FDA") will be required before any commercial sales of the Company's product candidates may commence in the United States, and approvals from foreign regulatory authorities will be required before international sales may commence. Prior to obtaining necessary regulatory approvals, the Company will be required to demonstrate the safety and efficacy of its processes and product candidates and the cells produced by such processes and in such products for application in the treatment of humans through extensive preclinical studies and clinical trials. To date, the Company has only tested the safety of cells produced in the cell culture chamber predecessor of the Aastrom CPS, and only in a limited numbers of patients. The Company is currently conducting a pre-pivotal clinical trial to demonstrate the safety and biological activity of patient-derived cells produced in the Company's cell culture chamber in a limited number of patients with breast cancer and, if the results from this pre-pivotal trial are successful, the Company intends to seek clearance from the FDA to commence its pivotal clinical trial. The results of preclinical studies and clinical trials of the Company's product candidates, however, may not necessarily be predictive of results that will be obtained from subsequent or more extensive clinical trials. Further, there can be no assurance that pre-pivotal or pivotal clinical trials of any of the Company's product candidates will demonstrate the safety, reliability and efficacy of such products, or of the cells produced in such products, to the extent necessary to obtain required regulatory approvals or market acceptance.

The ability of the Company to complete its clinical trials in a timely manner is dependent upon many factors, including the rate of patient enrollment. Patient enrollment is a function of many factors, including the size of the patient population, the proximity of suitable patients to clinical sites and the eligibility criteria for the

study. The Company has experienced delays in patient accrual in its current pre-pivotal clinical trial. Further delays in patient accrual, in the Company's current pre-pivotal clinical trial or in future clinical trials, could result in increased costs associated with clinical trials or delays in receiving regulatory approvals and commercialization, if any. Furthermore, the progress of clinical investigations with the Aastrom CPS and the Company's other product candidates will be monitored by the FDA, which has the authority to cease clinical investigations, at any time, due to patient safety or other considerations. Any of the foregoing would have a material adverse effect on the Company's business, financial condition and results of operations. See "--Uncertainty of Regulatory Approval; --Extensive Government Regulation."

The Company's current pre-pivotal trial is designed to demonstrate specific biological safety and activity of cells produced in the Aastrom CPS, but is not designed to demonstrate long-term sustained engraftment of such cells. The patients enrolled in this pre-pivotal trial will have undergone extensive chemotherapy treatment prior to the infusion of cells produced in the Aastrom CPS. Such treatments will have substantially weakened these patients and may have irreparably damaged their hematopoietic systems. Due to these and other factors, it is possible that one or more of these patients may die or suffer severe complications during the course of the pre-pivotal trial. Further, there can be no assurance that patients receiving cells produced with the Company's technologies and product candidates will demonstrate long-term engraftment in a manner comparable to cells obtained from current stem cell therapy procedures, or at all. The failure to adequately demonstrate the safety or efficacy of the Company's technologies and product candidates, including long-term sustained engraftment, or the death of, or occurrence of severe complications in, one or more patients could substantially delay, or prevent, regulatory approval of such product candidates and have a material adverse effect on the Company's business, financial condition and results of operations.

MANUFACTURING AND SUPPLY UNCERTAINTIES; DEPENDENCE ON THIRD PARTIES

The Company does not operate and has no current intention to operate manufacturing facilities for the production of its product candidates. The Company currently arranges for the manufacture of its product candidates and their components, including certain cytokines, serum and media, with third parties, and expects to continue to do so in the foreseeable future. The Company has entered into collaborative product development and supply agreements with SeaMED Corporation ("SeaMED"), Ethox Corporation ("Ethox") and Anchor Advanced Products Inc., Mid-State Plastics Division ("MSP") for the collaborative development and manufacture of certain components of the Aastrom CPS and is dependent upon those suppliers to manufacture its products. The Company is also dependent upon Immunex Corporation ("Immunex"), Life Technologies, Inc. and Biowhittaker for the supply of certain cytokines, serum and media to be used in conjunction with the Aastrom CPS. With regard to cytokines that are not commercially available from other sources, Immunex is currently the Company's sole supplier and few alternative supply sources exist. Apart from SeaMED, Ethox, MSP and Immunex, the Company currently does not have contractual commitments from any of these manufacturers or suppliers. There can be no assurance that the Company's supply of such key cytokines, components and other materials will not become limited, be interrupted or become restricted to certain geographic regions. Furthermore, the Company currently only has the right to distribute cytokines obtained from Immunex in the United States and there can be no assurance that the Company will be able to obtain the worldwide right to distribute such cytokines or manufacture such cytokines by or for itself in the event that the Company's agreement with Immunex is terminated. There can also be no assurance that the Company will be able to obtain alternative components and materials from other manufacturers of acceptable quality, or on terms or in quantities acceptable to the Company or that the Company will not require additional cytokines, components and other materials to manufacture or use its product candidates. In the event that any of the Company's key manufacturers or suppliers fail to perform their respective obligations or the Company's supply of such cytokines, components or other materials become limited or interrupted, the Company would not be able to market its product candidates on a timely and cost-competitive basis, if at all, which would have a material adverse effect on the Company's business, financial condition and results of operations.

Like SeaMED, Ethox and MSP, other suppliers would need to meet FDA manufacturing requirements and undergo rigorous facility and process validation tests required by federal and state regulatory authorities. Any

significant delays in the completion and validation of such facilities could have a material adverse effect on the ability of the Company to complete clinical trials and to market its products on a timely and profitable basis, which in turn would have a material adverse effect on the Company's business, financial condition and results of operations.

There can also be no assurance that the Company will be able to continue its present arrangements with its suppliers, supplement existing relationships or establish new relationships or that the Company will be able to identify and obtain the ancillary materials that are necessary to develop its product candidates in the future. The Company's dependence upon third parties for the supply and manufacture of such items could adversely affect the Company's ability to develop and deliver commercially feasible products on a timely and competitive basis.

HISTORY OF OPERATING LOSSES; ANTICIPATION OF FUTURE LOSSES

The Company is a development stage company and there can be no assurance that its product applications for cell therapy will be successful. The Company has not yet completed the development and clinical trials of any of its product candidates and, accordingly, has not yet begun to generate revenues from the commercialization of any of its product candidates. Aastrom was incorporated in 1989 and has experienced substantial operating losses since inception. As of September 30, 1996, the Company has incurred net operating losses totaling approximately $30.3 million. Such losses have resulted principally from costs incurred in the research and development of the Company's cell culture technologies and the Aastrom CPS, general and administrative expenses, and the prosecution of patent applications. The Company expects to incur significant and increasing operating losses for at least the next several years, primarily owing to the expansion of its research and development programs, including preclinical studies and clinical trials. The amount of future losses and when, if ever, the Company will achieve profitability, are uncertain. The Company's ability to achieve profitability will depend, among other things, on successfully completing the development of its product candidates, obtaining regulatory approvals, establishing manufacturing, sales and marketing arrangements with third parties, and raising sufficient funds to finance its activities. No assurance can be given that the Company's product development efforts will be successful, that required regulatory approvals will be obtained, that any of the Company's product candidates will be manufactured at a competitive cost and will be of acceptable quality, or that the Company will be able to achieve profitability or that profitability, if achieved, can be sustained.

LIMITED SALES AND MARKETING CAPABILITIES; DEPENDENCE ON COLLABORATIVE RELATIONSHIPS

The Company has limited internal sales, marketing and distribution capabilities. If any of the Company's product candidates are successfully developed and the necessary regulatory approvals are obtained, the Company intends to market such products through collaborative relationships with companies that have established sales, marketing and distribution capabilities. The Company has established a strategic alliance with Cobe Laboratories, Inc. and Cobe BCT, Inc. (collectively, "Cobe") for the worldwide distribution of the Aastrom CPS for stem cell therapy and related uses. Cobe has the right to terminate its Distribution Agreement with the Company upon twelve months' notice upon a change of control of the Company, other than to Cobe, or at any time after December 31, 1997, if Cobe determines that commercialization of the Aastrom CPS for stem cell therapy on or prior to December 31, 1998 is unlikely. See "--Consequences of Cobe Relationship."

The amount and timing of resources that Cobe commits to its strategic alliance activities with the Company are, to a significant extent, outside of the control of the Company. There can be no assurance that Cobe will pursue the marketing and distribution of the Company's products, continue to perform its obligations under its agreements with the Company or that the Company's strategic alliance with Cobe will result in the successful commercialization and distribution of the Company's technologies and product candidates. There can also be no assurance that Cobe will be successful in its efforts to market and distribute the Company's products for stem cell therapy. The suspension or termination of the Company's strategic alliance with Cobe or the failure of the strategic alliance to be successful would have a material adverse effect on the Company's business, financial condition and results of operations.

Subject to the contractual requirements of the Cobe relationship, the Company will seek to enter into other agreements relating to the development and marketing of product candidates and in connection with such agreements may rely upon corporate partners to conduct clinical trials, seek regulatory approvals for, manufacture and market its potential products. There can be no assurance that the Company will be able to establish collaborative relationships for the development or marketing of the Company's product candidates on acceptable terms, if at all. The inability of the Company to establish such collaborative relationships may require the Company to curtail its development or marketing activities with regard to its potential products which would have a material adverse effect on the Company's business, financial condition and results of operations.

FUTURE CAPITAL NEEDS; UNCERTAINTY OF ADDITIONAL FUNDING

To date, Aastrom has funded its operations primarily through the sale of equity securities and corporate collaborations. The Company anticipates that the net proceeds of this offering, together with the Company's available cash and expected interest income thereon, will be sufficient to finance its research and development and other working capital requirements until late 1998. This estimate is based on certain assumptions which could be negatively impacted by the matters discussed under this heading and elsewhere under the caption "Risk Factors." In order to grow and expand its business, and to introduce its product candidates into the marketplace, the Company will need, among other things, to raise additional funds. The development of the Company's products for the expansion of additional cell types will require the Company to raise additional funds or to seek collaborative partners, or both, to finance related research and development activities.

The Company's future capital requirements will depend upon many factors, including, but not limited to, continued scientific progress in its research and development programs, costs and timing of conducting clinical trials and seeking regulatory approvals and patent prosecutions, competing technological and market developments, possible changes in existing collaborative relationships, the ability of the Company to establish additional collaborative relationships, and effective commercialization activities and facilities expansions if and as required. Because of the Company's potential long-term funding requirements, it may attempt to access the public or private equity markets if and whenever conditions are favorable, even if it does not have an immediate need for additional capital at that time. There can be no assurance that any such additional funding will be available to the Company on reasonable terms, or at all. If adequate funds are not available, the Company may be required to delay or terminate research and development programs, curtail capital expenditures, and reduce business development and other operating activities. If the Company is not successful in finding, entering into and maintaining arrangements with collaborative partners, its development efforts could be delayed. Furthermore, there can be no assurance that the Company will be able to implement collaborative development agreements under acceptable terms, if at all. Any of the foregoing capital constraints would have a material adverse effect on the Company's business, financial condition and results of operations. See "Management's Discussion and Analysis of Financial Condition and Results of Operations--Liquidity and Capital Resources."

UNCERTAINTY OF REGULATORY APPROVAL; EXTENSIVE GOVERNMENT REGULATION

The Company's research and development activities, preclinical studies, clinical trials, and the anticipated manufacturing and marketing of its product candidates are subject to extensive regulation by the FDA and other regulatory authorities in the United States. These activities are also regulated in other countries where the Company intends to test and market its product candidates. The approval of the FDA will be required before any commercial sales of the Company's product candidates may commence in the United States. Additionally, the Company will be required to obtain approvals from foreign regulatory authorities before international sales may commence.

The Company's products are potentially subject to regulation as medical devices under the Federal Food, Drug, and Cosmetic Act, or as biological products under the Public Health Service Act, or both. Different regulatory requirements may apply to the Company's products depending on how they are categorized by the FDA under these laws. To date, the FDA has indicated that it intends to regulate the Aastrom CPS for stem cell

therapy as a Class III medical device through the Center for Biologics Evaluation and Research. However, there can be no assurance that the FDA will ultimately regulate the Aastrom CPS for stem cell therapy as a medical device or that regulatory approval for such product will be obtained in a timely fashion or at all.

Further, it is unclear whether the FDA will separately regulate the cell therapies derived from the Aastrom CPS. The FDA is in the process of developing its requirements with respect to somatic cell therapy and gene cell therapy products, and recently proposed a new type of license for autologous cells manipulated ex vivo and intended for structural repair or reconstruction; autologous cells are cells obtained from, and administered to, the same patient. This proposal may indicate that the FDA will impose a similar approval requirement on other types of autologous cellular therapies, such as autologous cells for stem cell therapy. Any such additional regulatory or approval requirement could significantly delay the introduction of the Company's product candidates to the market, and have a material adverse effect on the Company's business, financial condition and results of operations. Until the FDA issues definitive regulations covering the Company's product candidates, the regulatory requirements for approval of such product candidates will continue to be subject to significant uncertainty.

Before marketing, the Aastrom CPS or other product candidates developed by the Company must undergo an extensive regulatory approval process. The regulatory process, which includes preclinical studies and clinical trials to establish safety and efficacy, takes many years and requires the expenditure of substantial resources. Data obtained from preclinical and clinical activities are susceptible to varying interpretations which could delay, limit or prevent FDA approval. In addition, delays or rejections may be encountered based upon changes in FDA policy for medical product approvals during the period of product development and FDA regulatory review of applications submitted by the Company for product approval. Similar delays may also be encountered in foreign countries. There can be no assurance that, even after the expenditures of substantial time and financial resources, regulatory approval will be obtained for any products developed by the Company. Moreover, if regulatory approval of a product is obtained, such approval may be subject to limitations on the indicated uses for which it may be marketed. Further, even if such regulatory approval is obtained, a marketed product, its manufacturer and its manufacturing facilities are subject to continual review and periodic inspections by the FDA, and later discovery of previously unknown problems with a product, manufacturer or facility may result in restrictions on such product or manufacturer, including a withdrawal of the product from the market. Failure to comply with the applicable regulatory requirements can, among other things, result in fines, suspensions of regulatory approvals, product recalls, operating restrictions and criminal prosecution. Further, additional government regulation may be established which could prevent or delay regulatory approval of the Company's products. See "Business--Government Regulation."

CONSEQUENCES OF COBE RELATIONSHIP

Following the completion of this offering, Cobe will be the largest single shareholder of the Company, beneficially owning approximately 23.1% of the outstanding Common Stock. In addition, Cobe has certain preemptive rights to maintain its relative percentage ownership and voting interest in the Company following this offering, and has the option, for a period of three years following this offering, to purchase from the Company an amount of Common Stock equal to 30% of the Company's fully diluted shares after the exercise of such option, at a purchase price equal to 120% of the public market trading price of the Company's Common Stock. If such option is exercised, Cobe would significantly increase its ownership interest in the Company and, as a consequence of such share ownership, obtain effective control of the Company. Such effective control would include the ability to influence the outcome of shareholder votes, including votes concerning the election of directors, the amendment of provisions of the Company's Restated Articles of Incorporation or Bylaws, and the approval of mergers and other significant transactions. Cobe also has been granted a "right of first negotiation" in the event that the Company determines to sell all, or any material portion, of its assets to another company or to merge with another company. Furthermore, the Company has agreed to use reasonable and good faith efforts to cause a nominee designated by Cobe to be elected to the Board of Directors for as long as Cobe owns at least 15% of the outstanding Common Stock. In addition, Edward C. Wood, Jr., the President of Cobe BCT, is a

director of the Company. The existence of the foregoing rights or the exercise of such control by Cobe could have the effect of delaying, deterring or preventing certain takeovers or changes in control of the management of the Company, including transactions in which shareholders might otherwise receive a premium for their shares over then current market prices. See "Description of Capital Stock--Rights of Cobe."

UNCERTAINTY REGARDING PATENTS AND PROPRIETARY RIGHTS

Aastrom's success depends in part on its ability, and the ability of its licensors, to obtain patent protection for its products and processes, preserve its trade secrets, defend and enforce its rights against infringement and operate without infringing the proprietary rights of third parties, both in the United States and in other countries. The validity and breadth of claims in medical technology patents involve complex legal and factual questions and, therefore, may be highly uncertain. No assurance can be given that any patents based on pending patent applications or any future patent applications of the Company or its licensors will be issued, that the scope of any patent protection will exclude competitors or provide competitive advantages to the Company, that any of the patents that have been or may be issued to the Company or its licensors will be held valid if subsequently challenged or that others will not claim rights in or ownership of the patents and other proprietary rights held or licensed by the Company. Furthermore, there can be no assurance that others have not developed or will not develop similar products, duplicate any of the Company's products or design around any patents that have been or may be issued to the Company or its licensors. Since patent applications in the United States are maintained in secrecy until patents issue, the Company also cannot be certain that others did not first file applications for inventions covered by the Company's and its licensors' pending patent applications, nor can the Company be certain that it will not infringe any patents that may issue to others on such applications. The Company relies on certain licenses granted by the University of Michigan and Dr. Cremonese for the majority of its patent rights. If the Company breaches such agreements or otherwise fails to comply with such agreements, or if such agreements expire or are otherwise terminated, the Company may lose its rights under the patents held by the University of Michigan and Dr. Cremonese, which would have a material adverse effect on the Company's business, financial condition and results of operation. See "Business--Patents and Proprietary Rights--University of Michigan Research Agreement and License Agreement" and "--Patents and Proprietary Rights--License Agreement with J.G. Cremonese." The Company also relies on trade secrets and unpatentable know-how which it seeks to protect, in part, by confidentiality agreements with its employees, consultants, suppliers and licensees. There can be no assurance that these agreements will not be breached, that the Company would have adequate remedies for any breach, or that the Company's trade secrets or unpatentable know-how will not otherwise become known or be independently developed by competitors.

The Company's success will also depend in part on its ability to develop commercially viable products without infringing the proprietary rights of others. The Company has not conducted freedom of use patent searches and no assurance can be given that patents do not exist or could not be filed which would have an adverse effect on the Company's ability to market its products or maintain its competitive position with respect to its products. If the Company's technology components, devices, designs, products, processes or other subject matter are claimed under other existing United States or foreign patents or are otherwise protected by third party proprietary rights, the Company may be subject to infringement actions. In such event, the Company may challenge the validity of such patents or other proprietary rights or be required to obtain licenses from such companies in order to develop, manufacture or market its products. There can be no assurance that the Company would be able to obtain such licenses or that such licenses, if available, could be obtained on commercially reasonable terms. Furthermore, the failure to either develop a commercially viable alternative or obtain such licenses could result in delays in marketing the Company's proposed products or the inability to proceed with the development, manufacture or sale of products requiring such licenses, which could have a material adverse effect on the Company's business, financial condition and results of operations. If the Company is required to defend itself against charges of patent infringement or to protect its own proprietary rights against third parties, substantial costs will be incurred regardless of whether the Company is successful. Such proceedings are typically protracted with no certainty of success. An adverse outcome could subject the Company to significant liabilities to third parties, and force the Company to curtail or cease its development and sale of its products and processes. See "Business--Patents and Proprietary Rights."

NO ASSURANCE OF THIRD PARTY REIMBURSEMENT

The Company's ability to successfully commercialize its product candidates will depend in part on the extent to which payment for the Company's products and related treatments will be available from government healthcare programs, such as Medicare and Medicaid, as well as private health insurers, health maintenance organizations and other third party payors. Government and other third-party payors are increasingly attempting to contain health care costs, in part by challenging the price of medical products and services. Reimbursement by third-party payors depend on a number of factors, including the payor's determination that use of the product is safe and effective, not experimental or investigational, medically necessary, appropriate for the specific patient and cost-effective. Since reimbursement approval is required from each payor individually, seeking such approvals is a time-consuming and costly process which will require the Company to provide scientific and clinical support for the use of each of the Company's products to each payor separately. Significant uncertainty exists as to the payment status of newly approved medical products, and there can be no assurance that adequate third-party payments will be available to enable the Company to establish or maintain price levels sufficient to realize an appropriate return on its investment in product development. If adequate payment levels are not provided by government and third-party payors for use of the Company's products, the market acceptance of those products will be adversely affected.

There can be no assurance that reimbursement in the United States or foreign countries will be available for any of the Company's product candidates, that any reimbursement granted will be maintained, or that limits on reimbursement available from third-party payors will not reduce the demand for, or negatively affect the price of, the Company's products. The unavailability or inadequacy of third-party reimbursement for the Company's product candidates would have a material adverse effect on the Company. Finally, the Company is unable to forecast what additional legislation or regulation relating to the healthcare industry or third-party coverage and reimbursement may be enacted in the future, or what effect such legislation or regulation would have on the Company's business.

COMPETITION AND TECHNOLOGICAL CHANGE

The Company is engaged in the development of medical products and processes which will face competition in a marketplace characterized by rapid technological change. Many of the Company's competitors have significantly greater resources than the Company, and have developed and may develop product candidates and processes that directly compete with the Company's products. Moreover, competitors that are able to achieve patent protection, obtain regulatory approvals and commence commercial sales of their products before the Company, and competitors that have already done so, may enjoy a significant competitive advantage. The Company's product development efforts are primarily directed toward obtaining regulatory approval to market the Aastrom CPS for stem cell therapy. That market is currently dominated by the bone marrow harvest and PBPC collection methods. The Company's clinical data, although early, is inconclusive as to whether or not cells expanded in the Aastrom CPS will enable hematopoietic recovery within the time frames currently achieved by the bone marrow harvest and PBPC collection methods. In addition, the bone marrow harvest and PBPC collection methods have been widely practiced for a number of years and, recently, the patient costs associated with these procedures have begun to decline. There can be no assurance that the Aastrom CPS method, if approved for marketing, will prove to be competitive with these established collection methods on the basis of hematopoietic recovery time, cost or otherwise. The Company also is aware of certain other products manufactured or under development by competitors that are used for the prevention or treatment of certain diseases and health conditions which the Company has targeted for product development. In particular, the Company is aware that competitors such as Amgen, Inc., CellPro, Incorporated, Systemix, Inc., Baxter Healthcare Corp. and Rhone-Poulenc Rorer Inc. ("RPR") are in advanced stages of development of technologies and products for use in stem cell therapy and other market applications currently being pursued by the Company. In addition, Cobe, a significant shareholder of the Company, is a market leader in the blood cell processing products industry and, accordingly, a potential competitor of the Company. There can be no assurance that developments by others will not render the Company's product candidates or technologies obsolete or noncompetitive, that the Company will be able to keep pace with new technological developments or that the

Company's product candidates will be able to supplant established products and methodologies in the therapeutic areas that are targeted by the Company. The foregoing factors could have a material adverse effect on the Company's business, financial condition and results of operations.

HAZARDOUS MATERIALS

The Company's research and development activities involve the controlled use of hazardous materials, chemicals and various radioactive compounds. The Company is subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of such materials and certain waste products. In the event of any contamination or injury from these materials, the Company could be held liable for any damages that result and any such liability could exceed the resources of the Company. Furthermore, the failure to comply with current or future regulations could result in the imposition of substantial fines against the Company, suspension of production, alteration of its manufacturing processes or cessation of operations. There can be no assurance that the Company will not be required to incur significant costs to comply with any such laws and regulations in the future, or that such laws or regulations will not have a material adverse effect on the Company's business, financial condition and results of operations. Any failure by the Company to control the use, disposal, removal or storage of, or to adequately restrict the discharge of, or assist in the cleanup of, hazardous chemicals or hazardous, infectious or toxic substances could subject the Company to significant liabilities, including joint and several liability under certain statutes. The imposition of such liabilities would have a material adverse effect on the Company's business, financial condition and results of operations.

POTENTIAL PRODUCT LIABILITY; AVAILABILITY OF INSURANCE

The Company is, and will continue to be, subject to the risk of product liability claims alleging that the use of its products has adverse effects on patients. This risk exists for product candidates tested in human clinical trials as well as products that are sold commercially, if any. Further, given the medical conditions for which the Aastrom CPS is expected to be utilized, any product liability claim could entail substantial compensatory and punitive damages. The assertion of product liability claims against the Company could result in a substantial cost to, and diversion of efforts by, the Company. There can be no assurance that the Company would prevail in any such litigation or that product liability claims, if made, would not result in a recall of the Company's products or a change in the indications for which they may be used. The Company maintains product liability insurance coverage in the aggregate of $5,000,000 for claims arising from the use of its product candidates in clinical trials. There can be no assurance that the Company will be able to maintain such insurance or obtain product liability insurance in the future to cover any of its product candidates which are commercialized or that such existing or any future insurance and the resources of the Company would be sufficient to satisfy any liability resulting from product liability claims. Consequently, a product liability claim or other claim with respect to uninsured or underinsured liabilities could have a material adverse effect on the Company's business, financial condition and results of operations.

DEPENDENCE ON KEY PERSONNEL

The success of the Company depends in large part upon the Company's ability to attract and retain highly qualified scientific and management personnel. The Company faces competition for such personnel from other companies, research and academic institutions and other entities. There can be no assurance that the Company will be successful in hiring or retaining key personnel. See "Business--Employees" and "Management."

SHARES ELIGIBLE FOR FUTURE SALE

Sales of substantial amounts of Common Stock in the public market following this offering could adversely affect the prevailing market price of the Common Stock and the Company's ability to raise capital in the future. Upon completion of this offering, the Company will have a total of 13,244,899 shares of Common Stock outstanding, of which the 3,250,000 shares offered hereby will be freely tradeable without restriction under the Securities Act of 1933, as amended (the "Securities Act") by persons other than "affiliates" of the Company,

as defined under the Securities Act. The remaining 9,994,899 shares of Common Stock outstanding are "restricted securities" as the term is defined by Rule 144 promulgated under the Securities Act (the "Restricted Shares"). Of the 9,994,899 Restricted Shares, 6,998,170 shares may be sold under Rule 144, subject in some cases to certain volume restrictions and other conditions imposed thereby. An additional 159,971 shares will become eligible for sale 90 days after completion of the offering pursuant to Rule 144 and 701. The remaining 2,836,758 shares will be eligible for sale upon the expiration of their respective holding periods as set forth in Rule 144. The Securities and Exchange Commission has proposed certain amendments to Rule 144 that would reduce by one year the holding periods required for shares subject to Rule 144 to become eligible for resale in the public market. This proposal, if adopted, would permit earlier resale of shares of Common Stock currently subject to holding periods under Rule 144. No assurance can be given concerning whether or when the proposal will be adopted by the Securities and Exchange Commission. Furthermore, 9,956,922 of the Restricted Shares are subject to lock-up agreements expiring 180 days following the date of this Prospectus. Such agreements provide that Cowen & Company may, in its sole discretion and at any time without notice, release all or a portion of the shares subject to these lock-up agreements. Upon the expiration of the lock-up agreements, 7,158,141 of the 9,994,899 Restricted Shares may be sold pursuant to Rule 144 or 701, subject in some cases to certain volume restrictions imposed thereby. Certain existing shareholders have rights to include shares of Common Stock owned by them in future registrations by the Company for the sale of Common Stock or to request that the Company register their shares under the Securities Act. See "Description of Capital Stock--Registration Rights." Following the date of this Prospectus, the Company intends to register on one or more registration statements on Form S-8 approximately 1,827,995 shares of Common Stock issuable under its stock option and stock purchase plans. Of the 1,827,995 shares issuable under its stock option and stock purchase plans, 336,254 shares are subject to outstanding options as of September 30, 1996, all of which shares are subject to lock-up agreements. Shares covered by such registration statements will immediately be eligible for sale in the public market upon the filing of such registration statements. The Company also has issued warrants to purchase 69,444 shares of Common Stock which become exercisable 90 days after the closing of this offering and, upon the effective date of this offering, will grant an immediately exercisable option to purchase 333,333 shares of Common Stock. The shares issuable upon exercise of such warrants and the shares issuable upon exercise of such option will be subject to lock-up agreements. In addition, Cobe has agreed to purchase $5,000,000 of Common Stock in this offering at the initial public offering price per share, all of which shares will be subject to a lock-up agreement. See "Management--Benefit Plans," "Certain Transactions" and "Shares Eligible for Future Sale."

CONTROL BY EXISTING MANAGEMENT AND SHAREHOLDERS

Upon completion of this offering, the Company's directors, executive officers, and certain principal shareholders, including Cobe, affiliated with members of the Board of Directors and their affiliates will beneficially own approximately 45% of the Common Stock (approximately 43% if the Underwriters' over-allotment option is exercised in full). Accordingly, such shareholders, acting together, may have the ability to exert significant influence over the election of the Company's Board of Directors and other matters submitted to the Company's shareholders for approval. The voting power of these holders may discourage or prevent certain takeovers or changes in control of the management of the Company unless the terms are approved by such holders. See "Principal Shareholders."

NO PRIOR PUBLIC MARKET; POSSIBLE STOCK PRICE VOLATILITY

Prior to this offering there has been no public market for the Common Stock, and an active public market for the Common Stock may not develop or be sustained. The initial public offering price will be determined through negotiation between the Company and the Representatives of the Underwriters based on several factors that may not be indicative of future market prices. See "Underwriting" for a discussion of the factors considered in determining the initial public offering price. The trading price of the Common Stock and the price at which the Company may sell securities in the future could be subject to wide fluctuations in response to announcements of clinical results, research activities, technological innovations or new products by the Company or competitors,

changes in government regulation, developments concerning proprietary rights, variations in the Company's operating results, announcements by the Company of regulatory developments, litigation, disputes concerning patents or proprietary rights or public concern regarding the safety, efficacy or other implications of the products or methodologies to be developed by the Company or its collaborators or enabled by the Company's technology, general market conditions, the liquidity of the Company or its ability to raise additional funds, and other factors or events. In addition, the stock market has experienced extreme fluctuations in price and volume. This volatility has significantly affected the market prices for securities of emerging biotechnology companies for reasons frequently unrelated to or disproportionate to the operating performance of the specific companies. These market fluctuations as well as general fluctuations in the stock markets may adversely affect the market price of the Common Stock.

ANTI-TAKEOVER EFFECT OF CHARTER AND BY-LAW PROVISIONS AND MICHIGAN LAW

The Company's Restated Articles of Incorporation authorize the Board of Directors to issue, without shareholder approval, 5,000,000 shares of Preferred Stock with voting, conversion, and other rights and preferences that could materially and adversely affect the voting power or other rights of the holders of Common Stock. The issuance of Preferred Stock or of rights to purchase Preferred Stock could be used to discourage an unsolicited acquisition proposal. The Company's Bylaws contain procedural restrictions on director nominations by shareholders and the submission of other proposals for consideration at shareholder meetings. The possible issuance of Preferred Stock and the procedures required for director nominations and shareholder proposals could discourage a proxy contest, make more difficult the acquisition of a substantial block of Common Stock, or limit the price that investors might be willing to pay in the future for shares of Common Stock. In addition, certain provisions of Michigan law applicable to the Company could also delay or make more difficult a merger, tender offer, or proxy contest involving the Company. See "Description of Capital Stock."

IMMEDIATE AND SUBSTANTIAL DILUTION; ABSENCE OF DIVIDENDS

Purchasers of the Common Stock in this offering will experience immediate and substantial dilution in the net tangible book value of the Common Stock. Additional dilution is likely to occur upon the exercise of outstanding options granted by the Company. The Company has never paid cash dividends and does not anticipate paying any cash dividends in the foreseeable future. See "Dilution" and "Dividend Policy."

THE COMPANY

Aastrom was incorporated in Michigan in March 1989 under the name Ann Arbor Stromal, Inc. In 1991, the Company changed its name to Aastrom Biosciences, Inc. The Company's principal executive offices are located at 24 Frank Lloyd Wright Drive, P.O. Box 376, Ann Arbor, Michigan 48106 and its telephone number is (313) 930-5555. Aastrom(TM) and the Company's stylized logo are trademarks of the Company. Leukine and Neupogen are registered trademarks of Immunex Corporation and Amgen, Inc., respectively.

USE OF PROCEEDS

The net proceeds to the Company from the sale of the 3,250,000 shares of Common Stock offered hereby are estimated to be $26,302,500 ($30,382,875 if the Underwriters exercise their over-allotment option in full), at an assumed initial public offering price of $9.00 per share and after deducting underwriting discounts and commissions and estimated offering expenses payable by the Company.

The Company currently intends to use approximately $16,000,000 of the net proceeds from the offering to fund product and clinical development activities for the Aastrom CPS, including pre-pivotal and pivotal clinical trials and approximately $7,000,000 for other research activities with the remaining amount being used for working capital and other general corporate purposes, including scheduled repayments of obligations under equipment leases. The Company has $339,000 of outstanding equipment lease commitments as of September 30, 1996 with final payments due between November 1996 and May 1999 and bear interest ranging from 9.7% to 12.1%.

Based on its current operating plan, the Company anticipates that the net proceeds of this offering, together with the Company's available cash and expected interest income thereon, should be sufficient to finance the Company's research and development and other working capital requirements until late 1998. This estimate is based on certain assumptions which could be negatively impacted by the matters discussed in "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations--Liquidity and Capital Resources." Pending such uses, the net proceeds will be invested in short-term, interest bearing investment grade securities.

DIVIDEND POLICY

The Company has never declared or paid any cash dividends on its Common Stock and does not anticipate paying such cash dividends in the foreseeable future. The Company currently anticipates that it will retain all future earnings, if any, for use in the development of its business.

CAPITALIZATION

The following table sets forth the capitalization of the Company (i) as of September 30, 1996, and (ii) on a pro forma as adjusted basis to reflect the conversion of all outstanding shares of Preferred Stock into Common Stock upon the closing of this offering and the receipt of the estimated net proceeds from the Company's sale of 3,250,000 shares of Common Stock pursuant to this offering. See "Use of Proceeds" and "Certain Transactions."

	SEPTEMBER 30, 1996	
	ACTUAL	PRO FORMA AS ADJUSTED
Long-term portion of capital lease obligations(1)....	$ 147,000	$ 147,000
Shareholders' equity(2) (3):		
Preferred stock, no par value: 10,157,647 shares authorized, 9,657,648 shares issued and outstanding, actual; 5,000,000 shares authorized, no shares issued and outstanding, as adjusted.....	37,718,000	--
Common stock, no par value: 18,500,000 shares authorized, 1,887,312 shares issued and outstanding, actual; 40,000,000 shares authorized, 13,235,734 issued and outstanding, as adjusted, in each case net of shareholder notes receivable.....	198,000	64,218,500
Deficit accumulated during the development stage.....	(30,298,000)	(30,298,000)
Total shareholders' equity.....	7,618,000	33,920,500
Total capitalization.....	$ 7,765,000	$ 34,067,500

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(1) See Note 7 of Notes to Financial Statements.

(2) Excludes options and warrants outstanding as of the date of this Prospectus to purchase 1,123,196 shares of Common Stock at a weighted average exercise price of $6.55 per share, assuming the closing of this offering at an initial public offering price of $9.00 per share. Also excludes 9,165 shares issued upon the exercise of options subsequent to September 30, 1996. See "Management--Stock Option and Employee Benefit Plans" and Notes 4 and 9 of Notes to Financial Statements.

(3) Includes 205,882 shares of Series E Preferred Stock authorized on October 16, 1996 and issuable to RPR. See "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Certain Transactions" and Note 9 of Notes to Financial Statements.

DILUTION

The Company's pro forma net tangible book value at September 30, 1996 was approximately $7,618,000 or $.76 per share. Pro forma net tangible book value per share represents the amount of the Company's shareholders' equity, less intangible assets, divided by 9,985,734, the number of shares of Common Stock outstanding as of September 30, 1996, after giving effect to the automatic conversion of all Preferred Stock into Common Stock upon the closing of this offering.

After giving effect to the sale of 3,250,000 shares of Common Stock in this offering at an assumed initial public offering price of $9.00 per share and after deducting underwriting discounts and commissions and estimated offering expenses payable by the Company, the pro forma net tangible book value of the Company as of September 30, 1996 would have been $33,920,500, or $2.56 per share. This represents an immediate increase in pro forma net tangible book value of $1.80 per share to existing shareholders and an immediate dilution in pro forma net tangible book value of $6.44 per share to purchasers of Common Stock in this offering, as illustrated in the following table:

Assumed initial public offering price per share		$9.00
Pro forma net tangible book value per share as of September 30, 1996	$ .76	
Increase per share attributable to new investors	1.80	
Pro forma net tangible book value per share after this offering		2.56
Dilution per share to new investors		$6.44

Utilizing the foregoing assumptions, the following table summarizes the total consideration paid to the Company and the average price per share paid by the existing shareholders and by purchasers of shares of Common Stock in this offering:

	SHARES PURCHASED		TOTAL CONSIDERATION		AVERAGE PRICE
	NUMBER	PERCENTAGE	AMOUNT	PERCENTAGE	PER SHARE
Existing shareholders	9,985,734	75%	$38,083,000	57%	$3.81
New investors	3,250,000	25%	29,250,000	43%	9.00
Total	13,235,734	100%	$67,333,000	100%	

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The foregoing excludes options and warrants outstanding as of the date of this Prospectus to purchase 1,123,196 shares of Common Stock at a weighted average exercise price of $6.55 per share, assuming the closing of this offering at an initial public offering price of $9.00 per share. In the event such options and warrants are exercised, investors may experience further dilution. Also excludes 9,165 shares issued upon the exercise of options subsequent to September 30, 1996. See "Management--Stock Option and Employee Benefit Plans" and Notes 4 and 9 of Notes to Financial Statements.

SELECTED FINANCIAL DATA

The statement of operations data for the fiscal years ended June 30, 1994, 1995 and 1996, for the period from Inception to June 30, 1996 and the balance sheet data at June 30, 1995 and 1996, are derived from, and are qualified by reference to, the audited financial statements included elsewhere in the Prospectus and should be read in conjunction with those financial statements and notes thereto. The statement of operations data for the fiscal years ended June 30, 1992 and 1993, and the balance sheet data at June 30, 1992, 1993 and 1994, are derived from audited financial statements not included herein. The information presented below for the three-month periods ended September 30, 1995 and 1996, for the period from Inception to September 30, 1996 and as of September 30, 1996, have been derived from the unaudited financial statements of the Company. In the opinion of the Company's management, the unaudited financial statements have been prepared by the Company on a basis consistent with the Company's audited financial statements and include all adjustments, consisting of only normal recurring accruals, necessary for a fair presentation of the financial position and the results of operations for those periods. Operating results for the three-month period ended September 30, 1996 are not necessarily indicative of the results that will be achieved for the entire year ended June 30, 1997. The data set forth below are qualified by reference to, and should be read in conjunction with, the financial statements and notes thereto, and Management's Discussion and Analysis of Financial Condition and Results of Operations.

	YEAR ENDED JUNE 30,					INCEPTION TO JUNE 30,
	1992	1993	1994	1995	1996	1996
STATEMENT OF OPERATIONS DATA:						
Revenues:						
Research and development agreements....	$ --	$ --	$ 49,000	$ 396,000	$ 1,342,000	$ 1,787,000
Grants.....	--	784,000	823,000	121,000	267,000	1,995,000
Total revenues.	--	784,000	872,000	517,000	1,609,000	3,782,000
Costs and expenses:						
Research and development...	1,090,000	2,600,000	5,627,000	4,889,000	10,075,000	25,075,000
General and administrative.	272,000	1,153,000	1,565,000	1,558,000	2,067,000	7,089,000
Total costs and expenses..	1,362,000	3,753,000	7,192,000	6,447,000	12,142,000	32,164,000
Loss before other income and expense....	(1,362,000)	(2,969,000)	(6,320,000)	(5,930,000)	(10,533,000)	(28,382,000)
Other income (expense):						
Interest income.....	94,000	148,000	245,000	279,000	678,000	1,576,000
Interest expense.....	--	(26,000)	(65,000)	(66,000)	(62,000)	(219,000)
Net loss.....	$(1,268,000)	$(2,847,000)	$(6,140,000)	$(5,717,000)	$ (9,917,000)	$(27,025,000)
Pro forma net loss per share(1).....					$ (.98)	
Pro forma weighted average number of shares outstanding(1).					10,103,000	

	THREE MONTHS ENDED SEPTEMBER 30,		INCEPTION TO SEPTEMBER 30,
	1995	1996	1996
STATEMENT OF OPERATIONS DATA:			
Revenues:			
Research and development agreements....	$ 172,000	$ 195,000	$ 1,982,000
Grants.....	39,000	29,000	2,024,000

Total revenues.	211,000	224,000	4,006,000
Costs and expenses:			
Research and development...	1,195,000	3,160,000	28,235,000
General and administrative.	446,000	452,000	7,541,000
Total costs and expenses..	1,641,000	3,612,000	35,776,000
Loss before other income and expense....	(1,430,000)	(3,388,000)	(31,770,000)
Other income (expense):			
Interest income.....	149,000	126,000	1,702,000
Interest expense.....	(18,000)	(11,000)	(230,000)
Net loss.....	$(1,299,000)	$(3,273,000)	$(30,298,000)
Pro forma net loss per share(1).....		$ (.32)	
Pro forma weighted average number of shares outstanding(1).		10,107,000	

	JUNE 30,					SEPTEMBER 30,
	1992	1993	1994	1995	1996	1996
BALANCE SHEET DATA:						
Cash, cash equivalents and short-term investments.....	$5,640,000	$3,085,000	$ 6,730,000	$11,068,000	$10,967,000	$ 7,108,000
Working capital.....	5,399,000	2,744,000	6,187,000	10,319,000	9,851,000	6,540,000
Total assets.....	6,414,000	4,156,000	8,227,000	12,551,000	12,673,000	8,931,000
Long-term capital lease obligations.....	--	311,000	425,000	412,000	189,000	147,000
Deficit accumulated during the development stage.....	(2,404,000)	(5,251,000)	(11,391,000)	(17,108,000)	(27,025,000)	(30,298,000)
Total shareholders' equity.....	6,104,000	3,268,000	6,985,000	11,186,000	10,850,000	7,618,000

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(1) See Note 1 of Notes to Financial Statements for information concerning the computation of pro forma net loss per share and shares used in computing pro forma net loss per share.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

OVERVIEW

Since inception, the Company has been in the development stage and engaged in research and product development, conducted both on its own behalf and in connection with various collaborative research and development agreements with other entities. The Company expects that its revenue sources for at least the next several years will continue to be limited to grant revenues and research funding, milestone payments and licensing fees from potential future corporate collaborators. The timing and amount of such future cash payments and revenues, if any, will be subject to significant fluctuations, based in part on the success of the Company's research activities, the timing of the achievement of certain milestones and the extent to which associated costs are reimbursed under grant or other arrangements. Substantially all of the Company's revenues from product sales, if any, will be subject to the Company's obligation to make aggregate royalty payments of up to 5% to certain licensors of its technology. Further, under the Company's Distribution Agreement with Cobe, Cobe will perform marketing and distribution activities and in exchange will receive approximately 38% to 42% of the Company's product sales in the area of stem cell therapy, subject to negotiated discounts and volume-based adjustments. Research and development expenses may fluctuate due to the timing of expenditures for the varying stages of the Company's research and clinical development programs. Research and development expenses will increase as product development programs and applications of the Company's products progress through research and development stages. Under the Company's License Agreement with Immunex, annual renewal fees of $1,000,000 are payable in each of the next four years. Under the Company's Distribution Agreement with Cobe, regulatory approval activities for the Company's products for stem cell therapies outside of the United States will be conducted, and paid for, by Cobe. As a result of these factors, the Company's results of operations have fluctuated and are expected to continue to fluctuate significantly from year to year and from quarter to quarter and therefore may not be comparable to or indicative of the results of operations for other periods.

Over the past several years, the Company's net loss has primarily increased, consistent with the growth in the Company's scope and size of operations. In the near term, the Company plans additional moderate growth in employee headcount necessary to address increasing requirements in the areas of product development, research, clinical and regulatory affairs and administration. Assuming capital is available to finance such growth, the Company's operating expenses will continue to increase as a result. At least until such time as the Company enters into arrangements providing research and development funding, the net loss will continue to increase as well. The Company has been unprofitable since its inception and does not anticipate having net income for several years. Through September 30, 1996, the Company had an accumulated deficit of $30,298,000. There can be no assurance that the Company will be able to achieve profitability on a sustained basis, if at all.

This Prospectus contains, in addition to historical information, forward-looking statements that involve risks and uncertainties. The Company's actual results could differ materially from the results discussed in the forward-looking statements. Factors that could cause or contribute to such differences include those discussed under this caption, as well as those discussed under the caption "Risk Factors" and elsewhere in this Prospectus.

RESULTS OF OPERATIONS

THREE MONTHS ENDED SEPTEMBER 30, 1996 AND 1995

Total revenues were $224,000 for the three months ended September 30, 1996 compared to $211,000 for the same period in 1995. These revenues consist primarily of research and development revenue under the Company's research collaboration with RPR, which was terminated in September 1996. See "Certain Transactions."

Total costs and expenses were $3,612,000 for the three months ended September 30, 1996 compared to $1,641,000 for the same period in 1995. The increase in costs and expenses in 1996 is primarily the result of an increase in research and development expenses to $3,160,000 in 1996 from $1,195,000 in 1995 and to a lesser extent by general and administrative expenses, which increased to $452,000 for the three months ended September 30, 1996 from $446,000 for the same period in 1995.

Interest income was $126,000 for the three months ended September 30, 1996 compared to $149,000 for the same period in 1995 and reflects a decrease in the levels of cash, cash equivalents and short-term investments in 1996.

The Company's net loss increased to $3,273,000 for the three months ended September 30, 1996 from $1,299,000 for the same period in 1995, primarily as a result of increased costs and expenses in 1996.

YEARS ENDED JUNE 30, 1996, 1995 AND 1994

Total revenues were $1,609,000 in 1996, $517,000 in 1995, and $872,000 in 1994. Grant revenues increased to $267,000 in 1996 from $121,000 in 1995, which had decreased from $823,000 in 1994, reflecting the timing of grant awards and related research activities, to the extent that such associated costs are reimbursed under the grants. Grant revenues accounted for 17%, 23% and 94% of total revenues for the years ended June 30, 1996, 1995 and 1994, respectively, and are recorded on a cost-reimbursement basis. Revenues from research and development agreements totaled $1,342,000 in 1996, $396,000 in 1995 and $49,000 in 1994, reflecting research funding received by the Company under its collaboration with RPR which commenced in September 1995. Revenues from RPR accounted for 83% and 48% of such revenue in 1996 and 1995, respectively. In September 1996, the Company's research collaboration with RPR terminated.

Total costs and expenses were $12,142,000 in 1996, $6,447,000 in 1995, and $7,192,000 in 1994. The increase in 1996 costs and expenses, compared with 1995, is primarily the result of an increase in research and development expense to $10,075,000 in 1996 from $4,889,000 in 1995. The increase in research and development expense reflects an increase in research, clinical development and product development activities. The decrease in costs and expenses in 1995, compared with 1994, is primarily the result of a decrease in research and development expense to $4,889,000 in 1995 from $5,627,000 in 1994. General and administrative expenses were $2,067,000 in 1996, $1,558,000 in 1995 and $1,565,000 in 1994. The increase in general and administrative expenses in 1996 is the result of increasing finance, legal and other administrative and marketing expenses which are expected to continue to increase in support of the Company's increasing product development and research activities. The decrease in general and administrative expense in 1995 is reflective of generally lower spending in 1995 as compared to 1994.

Interest income was $678,000 in 1996, $279,000 in 1995, and $245,000 in 1994. The increases in interest income in 1996 and 1995 are due primarily to corresponding increases in the levels of cash, cash equivalents and short-term investments for such periods. Interest expense was $62,000 in 1996, $66,000 in 1995, and $65,000 in 1994, reflecting varying amounts outstanding under capital leases during the periods.

The Company's net loss was $9,917,000 in 1996, $5,717,000 in 1995, and $6,140,000 in 1994. The Company expects to report substantial net losses for at least the next several years.

The Company has not generated any net income to date and therefore has not paid any federal income taxes since inception. At June 30, 1996, the Company had deferred tax assets totaling $9,650,000 consisting primarily of net operating loss and research tax credits that begin to expire from 2004 through 2011, if not utilized. A full valuation allowance for deferred tax assets has been provided. Utilization of federal income tax carryforwards is subject to certain limitations under Section 382 of the Internal Revenue Code of 1986, as amended. The completion of this offering is likely to limit the Company's ability to utilize federal income tax carryforwards under Section 382. The annual limitation could result in expiration of net operating losses and research and development credits before their complete utilization.

LIQUIDITY AND CAPITAL RESOURCES

The Company has financed its operations since inception primarily through private placements of Preferred Stock and other equity investments, which from inception, have totaled approximately $37,916,000, and to a lesser degree, through grant funding, payments received under research agreements and collaborations, interest

earned on cash, cash equivalents, and short-term investments, and funding under equipment leasing agreements. These financing sources have historically allowed the Company to maintain adequate levels of cash and other liquid investments. Under the Company's primary equipment leasing agreement, the lessor is granted a security interest in all of the Company's property and assets.

The Company's combined cash, cash equivalents and short-term investments totaled $10,967,000 at June 30, 1996, a decrease of $101,000 from June 30, 1995. The primary uses of cash, cash equivalents and short-term investments during the year ended June 30, 1996 included $8,967,000 to finance the Company's operations and working capital requirements, $445,000 in capital equipment additions and $270,000 in scheduled debt payments. During the year ended June 30, 1996, the Company received $3,500,000 in equity payments from RPR and $5,965,000 in net proceeds from the sale of Series E Convertible Preferred Stock. The Company plans to continue its policy of investing excess funds in short-term, investment-grade, interest-bearing instruments.

The Company's combined cash, cash equivalents and short-term investments totaled $7,108,000 as of September 30, 1996 compared to $10,967,000 at June 30, 1996. The decrease was primarily attributable to the use of $3,614,000 to fund operations and working capital requirements during the period and to a lesser degree by $173,000 in capital equipment purchases and $73,000 in scheduled debt payments.

In October 1996, the Company executed a financing commitment to provide the Company with up to $5,000,000 in additional equity funding from Cobe and $5,000,000 under a convertible loan agreement with another current investor. In connection with the convertible loan agreement, the Company has issued warrants to purchase 69,444 shares of Common Stock for securing the commitment. The warrants expire on October 15, 2000 if not exercised, and may be exercised, in whole or in part, at a price equal to the lesser of (a) $9.00 per share, which price increases by $3.00 per share on each anniversary of the closing of the offering being made hereby; or (b) 85% of the fair market value of the Company's Common Stock at the time of exercise. As of the date of this Prospectus, the Company has not obtained any financing under these commitments. These funding commitments expire upon the closing of this offering. On December 10, 1996, the Company issued to Cobe a notice to sell to Cobe 500,000 shares of Series F Preferred Stock for an aggregate purchase price of $3,000,000. Such sale is scheduled to close on March 19, 1997. In the event that this offering closes prior to March 19, 1997, Cobe's obligation to purchase Series F Preferred Stock under the equity commitment will terminate. In the event that this offering closes after March 19, 1997, Cobe's participation in this offering will be reduced by $3,000,000, the amount of its purchase of Series F Preferred Stock pursuant to the equity commitment.

The Company's future cash requirements will depend on many factors, including continued scientific progress in its research and development programs, the scope and results of clinical trials, the time and costs involved in obtaining regulatory approvals, the costs involved in filing, prosecuting and enforcing patents, competing technological and market developments and the cost of product commercialization. The Company does not expect to generate a positive cash flow from operations for several years, if at all, due to the expected increase in spending for research and development programs and the expected cost of commercializing its product candidates. The Company may seek additional funding through research and development agreements with suitable corporate collaborators, grants and through public or private financing transactions. The Company anticipates that the net proceeds of this offering, together with the Company's available cash and expected interest income thereon, will be sufficient to finance its research and development and other working capital requirements until late 1998. This estimate is based on certain assumptions which could be negatively impacted by the matters discussed under this heading and elsewhere under the caption "Risk Factors." The Company expects that its primary sources of capital for the foreseeable future will be through collaborative arrangements and through the public or private sale of its equity securities. There can be no assurance that such collaboration arrangements, or any public or private financing transaction, will be available on acceptable terms, if at all, or can be sustained on a long-term basis. If adequate funds are not available, the Company may be required to delay, reduce the scope of, or eliminate one or more of its research and development programs, which may have a material adverse effect on the Company's business. See "Risk Factors--Future Capital Needs; Uncertainty of Additional Funding" and Notes to Financial Statements.

RECENT PRONOUNCEMENTS

During October 1995, the Financial Accounting Standards Board issued Statement No. 123, "Accounting for Stock-Based Compensation," which establishes a fair value based method of accounting for stock-based compensation and incentive plans and requires additional disclosures for those companies that elect not to adopt the new method of accounting. Adoption of the new accounting pronouncement is required for the Company's fiscal year beginning July 1, 1996 and the Company intends to provide the additional disclosures required by the pronouncement in its financial statements for the year ended June 30, 1997.

During March 1995, the Financial Accounting Standards Board issued Statement No. 121, ("SFAS 121") "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of," which requires the Company to review for impairment of long-lived assets, certain identifiable intangibles, and goodwill related to those assets whenever events or changes in circumstances indicate that the carrying amount of an asset might not be recoverable. In certain situations, an impairment loss would be recognized. SFAS 121 will become effective for the Company's fiscal year beginning July 1, 1996. Management has studied the effect of implementing SFAS 121 and, based upon its evaluation, has determined that the impact on the Company's financial condition and results of operations is not significant for the period ended September 30, 1996.

BUSINESS

OVERVIEW

Aastrom is developing proprietary process technologies and devices for a range of cell therapy applications, including stem cell therapies and gene therapy. The Company's lead product under development, the Aastrom Cell Production System (the "Aastrom CPS"), consists of a clinical cell culture system with disposable cassettes and reagents for use in the rapidly growing stem cell therapy market. The Company believes that the Aastrom CPS method will be less costly, less invasive and less time consuming than currently available stem cell collection methods. The Aastrom CPS is designed as a platform product which implements the Company's pioneering stem cell replication technology. The Company also believes that the Aastrom CPS can be modified to produce a wide variety of other cell types for new, emerging therapies being developed by others. Prior to commencement of multiple-site pivotal trials, the Company is conducting a limited "pre-pivotal" trial of the Aastrom CPS under an Investigational Device Exemption for use in stem cell therapy. The Company has entered into a strategic collaboration for the development of the Aastrom CPS in stem cell therapy with Cobe BCT, Inc., a subsidiary of Gambro AB and a leading provider of blood cell processing products. Additionally, Aastrom is developing products and processes for the delivery of ex vivo gene therapy that are designed to address the production of gene-modified cells.

CELL THERAPY

Cell therapy is the use of human cells to treat a medical disorder. The most common types of cell therapy, blood and platelet transfusions, have been widely used for many decades. More recently, bone marrow-derived cells have been used to restore the bone marrow and the blood and immune system cells which are damaged by chemotherapy and radiation therapy during the treatment of many cancers. Transplantation of these cells is known as stem cell therapy. Other cell therapies have recently been used for generating skin and cartilage tissue and additional cell therapies are being developed by various companies and researchers to restore immune system cells as well as bone, kidney, liver, vascular and neuronal tissues.

Cell therapies require the collection of cells, either from the patient or a suitably matched donor. These cells are typically processed and stored for administration to the patient. Although cell therapy is being developed for use in an increasing number of diseases, widespread application of new cell therapies remains limited by the difficulties and expense associated with current cell collection and processing procedures. The problems of current cell collection techniques are exemplified in the area of stem cell therapy where the patient or donor undergoes invasive, time-consuming and costly procedures to collect the large volume of cells currently required for effective treatment. The Company believes an alternative to collecting the required therapeutic dose of cells is to grow these cells ex vivo from a small starting volume. However, ex vivo cell expansion, when biologically possible, has typically required costly techniques, facilities and operations to comply with FDA good manufacturing practices ("GMP"), which are not generally available in hospitals. As a result, cells needed for such therapies often require specialized cell production facilities which use labor-intensive, manual cell culture techniques.

There are numerous forms of cell therapy at an early stage of development. One such example is ex vivo gene therapy, in which genes are introduced into target cells in order to selectively correct or modulate disease conditions, or to modify cells for production of a therapeutic protein. The Company believes that the successful practice of ex vivo gene therapy will require the development of processes and products for the reliable, high-efficiency transfer of genes into cells and a means to produce the necessary dose of the genetically modified cells under GMP conditions.

STEM CELL THERAPY

Stem cell therapy is used to treat cancer patients who undergo chemotherapy or radiation therapy at dose levels that are toxic to the hematopoietic system, which is comprised of the bone marrow and cells of the blood and immune systems. The objective of stem cell therapy is to restore the hematopoietic system via the infusion and subsequent engraftment of healthy cells to replace bone marrow and result in the rapid recovery of neutrophils and platelets that have been destroyed by chemotherapy and radiation therapy. Stem cell therapy

reduces the risk of life-threatening infections and bleeding episodes following cancer treatments. In order to treat many cancers, high intensity chemotherapy or radiation is often required, which may severely destroy ("myeloablation") or partially destroy ("myelosuppression") the patient's hematopoietic system.

Cells required for effective stem cell therapy include stem cells, to replenish depleted bone marrow and provide a long-term ongoing source of the multilineage progenitor cells of the blood and immune systems, and early and late stage hematopoietic progenitor cells, to provide for rapid neutrophil and platelet recoveries. Stromal accessory cells are believed to further augment the growth of bone marrow. In the adult, all of these cell types originate in the bone marrow. These cells are currently collected from the donor or patient directly through multiple syringe aspirations under anesthesia, known as bone marrow collection, or through blood apheresis following treatment with drugs which cause cells to be released or mobilized from the bone marrow into the blood. This latter technique is known as a peripheral blood progenitor cell ("PBPC") collection. See "--Current Stem Cell Collection Methods." Recently, it has been demonstrated that the blood cells found in the umbilical cord of newborn infants include cells effective for stem cell therapy. This source of cells is being explored by physicians as a major new direction in stem cell therapy, but is currently limited by difficulties in obtaining sufficient quantities of these cells.

Once collected, the stem cell mixture is infused intravenously and the stem and stromal accessory cells migrate into the bone cavity where they engraft to form a new marrow. The hematopoietic progenitor cell components of the cell mixture provide early restoration of circulating white blood cells and platelets. The replenished bone marrow will normally provide long-term hematopoietic function, but complete restoration of bone marrow may take years following myeloablative cancer therapy. When the patient's hematopoietic system is malignant, such as in the case of leukemia, cells from a suitable donor are generally required in order to avoid reintroducing the disease during cell infusion. Such donor derived transplants are termed "allogeneic" transplants. Procedures using cells derived from the patient are termed "autologous" transplants.

STEM CELL THERAPY MARKET OPPORTUNITY

The benefits of stem cell therapy in the treatment of cancer patients have been well established over the past two decades. Stem cell therapy, in the form of bone marrow transplantation, was originally used in patients who had received treatment for blood and bone marrow cancers such as leukemia, and genetic diseases of the blood. However, because stem cell therapy has been shown to promote the rapid recovery of hematopoietic function, it is now being increasingly used to enable patients with other forms of cancer to receive high dose or multicycle chemotherapy and radiation treatments. These high-intensity therapies have a greater probability of eradicating dose-sensitive cancers but, because of their hematopoietic toxicity, cannot generally be given without stem cell therapy. As a result, some patients are treated with lower and less effective doses, and fewer cycles, of therapy than might otherwise be used.

According to an industry source, approximately 32,000 stem cell therapy procedures were completed worldwide in 1995, and, according to another industry source, the number of such procedures utilizing donor-derived and patient-derived cells has been growing annually by approximately 15% and 20%, respectively. This growth has been driven by encouraging clinical results in the treatment of dose-sensitive solid tumors, such as breast and ovarian cancers. The Company expects that stem cell therapy procedures will continue to grow due to increased incidence and prevalence of cancer, continued clinical demand for myelotoxic cancer treatment, and the increased cost effectiveness of stem cell therapy treatments.

Stem cell therapy may also enhance the effectiveness of blood cell growth factors. The timing and extent of additional cycles of chemotherapy is often limited by the recovery of a patient's white blood cells and platelets because a delayed recovery of these cells can leave the patient susceptible to life-threatening infection and bleeding episodes, and this limitation may allow for the regrowth of residual tumor cells. Many cancer patients are routinely treated with growth factors including G-CSF, such as Neupogen and GM-CSF, such as Leukine, which enhance the development of mature circulating white blood cells and platelets from the early progenitor bone-marrow derived cells, thereby decreasing the time between cycles of therapy and the probability of infection. However, during high dose or multicycle therapy, the stem and progenitor cells on which these growth

factors act are often depleted. Without these cells, growth factors have a limited or negligible effect. Stem cell therapy generally enhances the effectiveness of growth factors by introducing target stem and progenitor cells for growth factors to act upon such that patients generally exhibit a more rapid and consistent hematopoietic recovery.

CURRENT STEM CELL COLLECTION METHODS

Currently, the bone marrow-derived cells required for stem cell therapy are collected primarily either through the bone marrow harvest method or the PBPC collection method.

Bone Marrow Harvest

A traditional bone marrow harvest is a costly and invasive surgical procedure in which a physician removes approximately one liter of bone marrow from a patient or donor. This volume of bone marrow is removed using needles inserted into the cavity of the hip bone. The bone marrow harvest procedure typically requires between two to four hours of operating room time, with the physician often making more than 90 separate puncture sites in the hip bone to collect the necessary amount of bone marrow. Due to the length of the procedure and the trauma to the patient, general surgical anesthesia is administered and the patient is often hospitalized for a day. Frequently, the patient suffers pain from the procedure for several days after being discharged from the hospital. Furthermore, complications resulting from the general anesthesia or invasive nature of the procedure occur in a small percentage of patients. Bone marrow harvest provides a reliable source of stem and stromal accessory cells and has been the preferred source of cells in allogeneic transplants.

PBPC Mobilization and Collection

PBPC mobilization is a newer technique in which bone marrow-derived cells are harvested from a patient's or donor's circulating blood, rather than from bone marrow. In a PBPC mobilization procedure, the patient receives multiple injections of growth factors or cytotoxic drugs, or both, over the course of a week or more, which cause stem and progenitor cells resident in the bone marrow to mobilize into the circulating blood. The mobilized cells are then collected by connecting the patient to a blood apheresis device, which draws and returns large volumes of the patient's or donor's blood in order to selectively remove the therapeutic volume of stem and progenitor cells. Each collection procedure typically lasts for two to six hours and is typically repeated on two to eight consecutive days. Specialized laboratory testing over the period of mobilization and cell harvesting is necessary to determine that a sufficient quantity of desired cells has been collected, adding to the cost of the procedure. The PBPC process has become the predominant procedure in autologous stem cell therapy.

Procedure Considerations

Although stem cell therapy is being utilized to treat more patients for a broader range of diseases, its availability continues to be limited by the high costs of procuring cells, the invasive nature of traditional cell procurement techniques, and by the technical difficulties related to those collection procedures. The Company believes that current charges for bone marrow harvest, processing and infusion are approximately $10,000 to $15,000 per procedure, with considerable variability between institutions. The Company believes that current charges for PBPC collection, including mobilization and infusion, are approximately $12,000 to $20,000 for a two to three cycle procedure, with considerable variability between institutions depending on the mobilization regimen and the total volume, time and number of aphereses required.

Overall costs of stem cell therapy include the costs of the cell collection and infusion procedures, and the costs associated with supporting the patient during post-transplant recovery. Post-transplant costs include hospitalization time, antibiotic support, management of adverse reactions to the large volume cell infusions, and infusions of platelets and red blood cells. Any new stem cell therapy process will generally need to provide similar recovery endpoints to be competitive with the current procedures. In this regard, PBPC procedures have gained popularity compared with bone marrow harvests because the number of platelet transfusions is reduced for some patients.

Recently, products to implement a cell isolation method known as CD34 selection have been developed by other companies in conjunction with bone marrow harvest and PBPC collections. CD34 selection is a process designed to isolate specific types of cells in order to decrease storage and infusion problems associated with the large volume of fluids collected in bone marrow or multiple apheresis procedures. CD34 selection is used after the initial collection of stem and progenitor cells and, therefore, does not address the difficulties or costs associated with the basic cell collection procedures. A future objective of CD34 selection is to assist in depleting tumor cells from the transplant cells collected, thereby expanding the availability of stem cell therapy to new patient populations.

UMBILICAL CORD BLOOD

Umbilical cord blood ("UCB"), which is collected directly from the umbilical cord after delivery, without pain or risk to the infant or the mother, is emerging as a new source of cells for stem cell therapy. UCB has been reported to have stem cell concentrations that are much higher than that typically obtained from traditional bone marrow and PBPC collection methods. After collection, UCB is typically frozen for later use in a stem cell therapy procedure. Storage of UCB samples involves small volumes of cells, compared to typical bone marrow or PBPC storage. Accordingly, the costs of collection and storage of UCB cells are comparatively low. This source of cells is also "tumor-free," such that UCB would be preferred for many current stem cell therapy procedures in metastatic cancer patients. Before UCB can become a major supply source for stem cell therapy, a coordinated UCB banking system must emerge. In this regard, several UCB banking institutions have been established to date, and the group is growing in both number and size. The establishment of these UCB banking institutions is an initial step which may lead to a coordinated UCB banking system.

One current disadvantage of UCB is the relatively low number of available cells. Unlike bone marrow or PBPC harvest, where the collection of more cells to meet a particular treatment is typically achievable, the number of cells available from a UCB donor is limited. This problem is exacerbated by the required cryopreservation of the cells, which causes significant cell loss. The resultant low cell number is believed to be responsible for the longer hematopoietic recovery times observed with UCB transplants, as compared with bone marrow or PBPC transplants. Further, because of the low cell number, UCB transplants are typically restricted to small patients. Therefore, increasing the number of therapeutic cells from a UCB sample would facilitate the more widespread use of UCB transplants. Aastrom believes that providing the transplant site with the capability to carry out the UCB cell expansion will be a major factor in the increased use of UCB for stem cell therapy and a significant business opportunity.

AASTROM TECHNOLOGY

Aastrom is developing proprietary process technologies that are pioneering the ex vivo production of human stem and progenitor cells. The Company has also developed a proprietary cell culture device that mimics the biological and physical environment necessary for the growth of certain human cells and tissues, including bone marrow. The Company's initial product candidate, the Aastrom CPS, utilizes the Company's process technology and is designed to enable the ex vivo production of human stem and progenitor cells as an alternative to the bone marrow harvest and PBPC mobilization methods and as an enhancement to the UCB collection method. The Company believes that the Aastrom CPS may be used for other cell production processes which are being developed by third parties and, in combination with the Company's proprietary gene transfer process, may have application in the developing field of ex vivo gene therapy.

CORE TECHNOLOGY

Stem Cell Growth Process

Aastrom has developed proprietary process technologies for ex vivo production of therapeutic stem and progenitor cells as well as other key cells found in human bone marrow. The Company's proprietary process entails the placement of a stem cell mixture in a culture environment that mimics the biology and physiology of

natural bone marrow. This process enables the stem and early and late-stage progenitor cells needed for an effective stem cell therapy procedure to be concurrently expanded. Growth factors can be added to stimulate specific cell lineages to grow or to increase cell growth to meet a particular therapeutic objective. The stem cell growth process can best be completed with little or no additional stem cell selection or purification procedures. This stem cell replication process can also enable or augment the genetic modification of cells by providing the cell division step needed for new genes to integrate into the stem cell DNA. Currently available cell culture methods tend to result in a loss of stem cells, either through death or through differentiation into mature cells. The Company has exclusive licenses to two U.S. patents and additional applications that cover these processes. See "--Additional Stem Cell and Other Cell Therapies."

Aastrom Cell Culture Chamber

Aastrom has developed a proprietary cell culture chamber to implement the Company's process technology. The culture chamber produces cells on a clinical scale, and allow for simple, sterile recovery of the cells for therapeutic use. The Company believes that the Aastrom cell culture chamber may also be used for growing other human therapeutic cells, such as T-Cells used for lymphocyte therapies, chondrocytes for cartilage replacement, and mesenchymal tissues for bone and cartilage replacement. The Company holds exclusive licenses to two U.S. patents and additional applications for its cell culture chamber device technology. See "--Additional Stem Cell and Other Cell Therapies."

Efficient Gene Transfer

Aastrom has developed proprietary processes and device technology that may enable increased efficiency of vector-mediated gene transfer into cells as compared to conventional procedures. This directed-motion gene transfer or gene loading technology is being pursued by the Company for application in most cell and tissue types and most vector technologies. The Company intends to develop products based upon its gene loading technology. Development of additional products will require the Company to raise additional funds or to seek collaborative partners, or both, to finance related research and development activities, as to which there can be no assurance. Furthermore, due to the uncertainties involved, the Company is unable to estimate the length of time such development may take. If successfully developed into products, the Company believes that such products would facilitate the advancement of numerous gene therapy protocols into the clinic and ultimately the market. The Company is the exclusive licensee of a U.S. Patent, and has additional applications pending, for this technology. See "Aastrom Product Candidates For Ex Vivo Gene Therapy."

THE AASTROM CPS

The Aastrom CPS is the Company's lead product under development for multiple cell therapy applications, including stem cell therapy. The Aastrom CPS is a proprietary system that the Company believes will enable the large scale ex vivo production of a variety of therapeutic cells at health care facilities, independent laboratories, transplant centers and blood banks, and has been designed to implement Aastrom's stem cell growth process as well as processes for the production of other cell types.

The Aastrom CPS is comprised of several components, including single-use disposable cassettes and reagents and microprocessor-controlled instruments, which are at various stages of development. The Cell Cassette is a single-use disposable cartridge which contains the Aastrom cell culture chamber and the related media supply waste reservoirs and harvest bag. The microprocessor-controlled instruments include the Incubator which controls the culture conditions for the operation of the Cell Cassette, and the Processor which automates the priming and harvesting of the cells from the Cell Cassette. The System Manager is a user interface computer that is being developed to simultaneously track and monitor the cell production process in over thirty CPS Incubators and record relevant process variables and operator actions. Prototype components of the Aastrom CPS are currently being used in a clinical trial and ongoing development activities are directed at completing other production level components of the Aastrom CPS.

The Aastrom CPS is designed to be operated with minimal operator activity by a medical or laboratory technician and can implement clinical scale cell production at the patient care site. The end product of the Aastrom process is a blood-bag container with the cell product. The control and documentation features of the Aastrom CPS have been designed to meet GMP requirements for the therapeutic production of cells.

AASTROM CPS FOR STEM CELL THERAPY

The Company's initial application for the Aastrom CPS is expected to be in the growing field of stem cell therapy, where the Company believes that the Aastrom CPS may address many of the limitations of existing procedures. The Aastrom CPS is based on a comparatively simple process in which a small volume of bone marrow cells are collected from the patient or donor using a needle aspiration procedure typically under a local anesthetic or sedative. This cell mixture is quantified, and an appropriate volume of cells is then inoculated into one or more Cell Cassettes with the necessary growth media. Growth-factor-stimulated cells are produced using the Aastrom CPS in approximately 12 to 13 days, with no further patient involvement. Depending upon the cell quantity necessary for a therapeutic application, single or multiple Cell Cassettes may be required, with a different volume requirement of starting cells taken from the patient at the initial visit. The Aastrom CPS has been designed to minimize operator involvement during the cell production process, and the steps required before and after the Aastrom CPS are standard laboratory procedures.

Potential Advantages of Aastrom CPS

The Company believes that the Aastrom CPS, if approved for commercial sale by the FDA and foreign regulatory agencies, may provide certain improvements and efficiencies over traditional cell collection and infusion processes. The following table, which sets forth the Company's estimates based on a 1996 survey conducted by the Company of 11 stem cell transplant physicians at different transplant institutions throughout the United States, compares estimated patient care episodes, procedure time and needle sticks for currently established cell collection and infusion techniques with the Aastrom CPS method of cell procurement:

CELL SOURCE	CARE EPISODES(1)	PROCEDURE TIME (HOURS)(1)	NEEDLE STICKS(2)
Bone Marrow Harvest(3).....	8	16	103
PBPC Mobilization and Collection(4).....	21	39	22
Aastrom CPS(5).....	2	1-3	4-10

(1) Includes all outpatient, inpatient, and home care episodes.
(2) Includes bone marrow aspirates, blood samples, catheter placements and other venous access, and subcutaneous injections.
(3) Includes operating room procedure and all preparatory and recovery procedures.
(4) Based on an average of three rounds of apheresis following cell mobilization injections.
(5) Projections, based on data accumulated during the Company's pre-clinical research and clinical trials.

Reduced Cost. The Company believes the Aastrom CPS has the potential to replace more costly, labor intensive and invasive cell collection and infusion procedures currently employed for stem cell therapy and to reduce physician, staff and patient time requirements.

Reduced Patient and Physician Burden. Cell production with the Aastrom CPS is expected to require the collection of a small volume of starting material compared to current collection procedures, eliminating the requirement for general surgical anesthesia, multiple drug injections and blood apheresis. Patient benefits are expected to include fewer needle sticks than with current cell collection and infusion methods and a reduction in overall patient procedure time. Additionally, Aastrom's process for cell expansion is expected to minimize the time requirement for physicians compared with bone marrow harvest.

Enhanced Multicycle High-Dose Chemotherapy. The long restoration period for the hematopoietic system following myeloablative therapy effectively limits patients to one opportunity for cell collection prior to cancer therapy. The Aastrom CPS may enhance the practice of multicycle, high-dose chemotherapy by providing the ability to produce a therapeutic dose of cells from a small starting volume. The initial cell collection can be divided into multiple samples and stored frozen until expansion at a later time is required.

Reduced Quantity of Lymphocytes. The Company believes its approach to stem cell therapy may provide an additional benefit over current methods by depleting potentially harmful cells such as T-cells and B-cells. These cells are believed to be primarily responsible for graft-versus-host disease, a common manifestation of allogeneic transplants in which the grafted donor's cells attack the host's tissues and organs.

Tumor Cell Purging. Cancer patients with tumor metastases, in which the cancer has spread to the blood and bone marrow, have not traditionally been candidates for autologous stem cell transplants because transplant may reintroduce cancer cells into the patient. Additionally, patients may have undetected tumor cells in their marrow or PBPC transplant, which can reestablish the cancer in the patient following transplant. The Aastrom CPS process may offer benefits for these groups of patients. The Company and other investigators have shown that some primary human tumor cells die or do not grow during hematopoietic cell culture. Further, the smaller volume of starting cells used for the Aastrom CPS compared with bone marrow harvest or PBPC transplants may provide approximately 10 to 70 fold less tumor cells in a transplant. This combination of passive depletion during culture with the lower starting volume of tumor cells may result in a tumor-free or tumor-reduced cell product for transplant. The benefit of such tumor depletion, if any, will vary depending upon the type of cancer and state of disease.

CLINICAL DEVELOPMENT

The Company's clinical development plan is initially to obtain regulatory approval in the United States to market the Aastrom CPS for autologous stem cell therapy and in Europe for more general cell therapy applications. The Company also intends to pursue approval of the Aastrom CPS for additional clinical indications.

The Company believes that the Aastrom CPS for stem cell therapy will be regulated as a medical device and that the Company will be required to submit a PMA application to, and obtain approval from, the FDA to allow it to market this product in the United States. In order to obtain PMA approval, the Company will be required to complete clinical trials under an IDE. See "--Government Regulation--Devices."

In a dose-ranging study conducted by the University of Michigan (the "University") in 1993, ex vivo produced cells utilizing the Company's proprietary cell production technology were infused into seven patients with non-Hodgkin's lymphoma after they received myeloablative chemotherapy. These patients also received cells obtained from either an autologous bone marrow harvest or PBPC procedure. No safety issues attributable to the infused cells were observed in this trial and the patients exhibited recovery profiles consistent with traditional transplantation techniques.

Aastrom completed the first feasibility trial of its cell production system technology under an IDE at the MD Anderson Cancer Center in October 1995. In this trial, ten breast cancer patients, who were subjected to myeloablative chemotherapy, were treated with cells obtained from a bone marrow harvest and with cells produced from a sample of such cells with a predecessor of the Aastrom CPS. The patients exhibited standard clinical recoveries, providing evidence of the clinical safety of cells obtained from the Company's cell production process and of the feasibility of cell production with a predecessor of the Aastrom CPS by clinical personnel at an investigational site.

Aastrom is currently conducting a pre-pivotal stem cell therapy clinical trial under an IDE submitted to the FDA. This clinical trial is designed to demonstrate that cells produced using the Aastrom CPS can provide hematopoietic recovery in accordance with trial endpoints in breast cancer patients who have received myeloablative chemotherapy. Bone marrow obtained from the patients by traditional methods will be available for precautionary reasons at defined clinical stages. The results from the five patients accrued at the first trial site have provided evidence of the clinical safety of the Aastrom CPS-produced cells in patients and that the hematopoietic recovery endpoints specified for the trial are achievable. The patients at this trial site were Stage IV breast cancer patients who had received significant prior cytotoxic therapies for their cancer. Four of these five patients received the precautionary bone marrow pursuant to the trial protocol. Preliminary results from the first trial site were reviewed with the FDA, and the IDE was amended to expand the trial to a second site. The amended IDE provided for the enrollment of Stage II, III and IV patients, and a delayed use of the precautionary bone marrow. As of the date of this Prospectus, patient data from this site provides further evidence that the hematopoietic recovery endpoints specified for the trial are achievable. Following review by the FDA, the IDE was recently amended to expand the trial to a third site. As of the date of this Prospectus, patient accrual in this trial is ongoing.

The objective of the current and anticipated future trials is to establish the protocol for the pivotal trial of the Aastrom CPS in autologous stem cell therapy in breast cancer. Provided that these pre-pivotal trials provide further evidence of feasibility and safety of the cells produced in the Aastrom CPS, the Company anticipates initiating a pivotal clinical trial at multiple sites no earlier than mid-1997, with the patient enrollment typical to support a PMA filing, although this schedule is subject to numerous risks and uncertainties. See "Risk Factors--Uncertainties Related to Preclinical and Clinical Testing."

Aastrom, in partnership with Cobe, intends to initiate a clinical trial in Europe by mid-1997 to evaluate the use of Aastrom CPS cells to promote hematopoietic recovery in breast cancer patients undergoing aggressive myelosuppressive chemotherapy. The Company intends to seek approval to market the Aastrom CPS in Europe through CE Mark Registration. See "--Government Regulation--Regulatory Process in Europe."

The preliminary results of the Company's pre-pivotal trial may not be predictive of results that will be obtained from subsequent patients in the trial or from more extensive trials. Further, there can be no assurance that the Company's pre-pivotal or pivotal trial will be successful, or that PMA approval or required foreign regulatory approvals for the Aastrom CPS will be obtained in a timely fashion, or at all.

BUSINESS STRATEGY

Aastrom's objective is to build a leadership position in cell therapy process technology. The primary elements of the Company's business strategy are as follows:

Establish Consumable Based Business Model. Aastrom's strategy is to sell the Aastrom CPS to institutions, hospitals, and other clinical care or commercial cell production facilities that are administering cell therapy. The Company plans to obtain ongoing revenue from the sale of single-use disposable Cell Cassettes and related cell culture media and reagents, which are utilized in individual cell therapy applications. After cells are cultured in the Cell Cassette, the cassette is discarded and a new cassette is utilized for a subsequent patient. Along with ongoing revenue from the sale of instruments and disposables for cell therapy applications, the Company believes it will be able to obtain license revenue from its stem cell therapy applications for its proprietary stem cell processes.

Focus Initially on Established and Reimbursed Therapies. Aastrom will seek to establish the use of the Aastrom CPS in the field of stem cell therapy for the treatment of toxicity resulting from many cancer therapies, including those for breast cancer, lymphoma, ovarian cancer, germ cell cancers, leukemias and aplastic anemias. Stem cell therapy is a well-established and growing treatment modality in cancer therapy, and current cell collection procedures are widely reimbursed by third party payors.

Leverage Platform Technology Across Multiple Market Opportunities. In addition to stem cell therapy applications, the Company believes that the Aastrom CPS may serve as a platform product that can be used to produce a variety of other cells for multiple therapeutic applications, such as T-cells for use in lymphocyte therapies, chondrocytes for cartilage replacement, and mesenchymal cells for use in certain solid tissue therapies. The Company believes that if the Aastrom CPS is well established as a method for cell production for use in stem cell therapy, the system will be positioned for commercialization of new cell and ex vivo gene therapies that are under development.

Market Through Collaborative Relationships. The Company plans to reach end-user markets through collaborative relationships with companies that have established positions in those markets. In 1993, the Company formed a strategic partnership with Cobe, a leading provider of blood cell processing equipment and disposables. Cobe is the Company's exclusive, worldwide distributor of the Aastrom CPS for stem cell therapy applications, not including stem cell gene therapy. The Company will seek to establish additional collaborations for other cell therapies as those therapies and the Company's product lines develop. See "Business--Strategic Relationships."

ADDITIONAL STEM CELL AND OTHER CELL THERAPIES

The Company believes that the Aastrom CPS hardware and disposables may be developed to serve as platform products for application in a variety of other emerging cell therapies in addition to stem cell therapy. The Company believes that the Aastrom CPS has the potential to supplant current manual cell culture methods to produce therapeutic quantities of cell types such as T-cells, chondrocytes, mesenchymal cells, keratinocytes, neuronal cells and dendritic cells. Other than a limited application of chondrocyte therapy, novel cell therapies are still in early stages of development by third parties and no assurance can be given that such other cell therapies will be successfully developed. Potential advantages of the Aastrom CPS in these therapies may include: (i) reducing labor and capital costs; (ii) enhancing process reliability; (iii) automating quality assurance; and (iv) reducing the need for specialized, environmentally controlled facilities.

Modification of such processes and application of the Company's products to the expansion of other cell types may require substantial additional development of specialized culture environments and which may need to be incorporated within the Company's existing cell cassettes. There can be no assurance that the Company will be able to successfully modify or develop existing or future products to enable such additional cell production processes. The Company's business opportunity is dependent upon successful development and regulatory approval of these novel cell therapies. No assurance can be given that such novel therapies will be successfully developed by other companies or approved by applicable regulatory authorities, or that the Company's processes or product candidates will find successful application in such therapies. In addition, the Company may be required to obtain license rights to such technologies in order to develop or modify existing or future products for use in such therapies. No assurance can be given that the Company will be able to obtain such licenses or that such licenses, if available, could be obtained on commercially reasonable terms. See "--Business Strategy" and "--Clinical Development," "Use of Proceeds," and "Risk Factors--Future Capital Needs; Uncertainty of Additional Funding."

Immunotherapies

Immunotherapy involves using cells of the immune system to eradicate a disease target. T-cell lymphocytes and dendritic cells are being actively investigated by other companies for this purpose, and the Company anticipates that many of these procedures will require ex vivo cell production.

T-cells, a class of lymphocyte white blood cells, play a critical role in the human immune system and are responsible for the human immune response in a broad spectrum of diseases, including cancers and infectious diseases. Cytotoxic T-lymphocytes ("CTLs") is a new process that involves collecting T-cells from a patient and culturing them in an environment resulting in T-cells with specificity for a particular disease target. Clinical trials by third parties have been initiated to demonstrate CTL effectiveness. The ex vivo production of these cells under conditions for use in medical treatment represents a critical step in the advancement of this therapy.

Dendritic cells (the potent antigen presenting cells) are believed to play an important role in the function of the immune system. Researchers believe that cultured dendritic cells could augment the natural ability of a patient to present antigens from the infectious agents to the immune system and aid in the generation of a cytotoxic T-cell response to the infectious agent.

Solid Tissue Cell Therapies

One of the newest areas of cell therapy involves the production of chondrocytes for the restoration of cartilage. Chondrocyte therapy involves the surgical removal of a small amount of tissue from the patient's knee and a therapeutic quantity of chondrocytes is produced from this surgical biopsy. The cells are then implanted into the patient's knee. Published reports indicate that such cells then reestablish mature articular cartilage. Currently, this cell production process is completed in highly specialized laboratory facilities using trained scientists and manual laboratory procedures. The Company believes that the Aastrom CPS may have the potential to reduce costs associated with the cell production procedure and, if successfully developed by the Company for this application, may eventually facilitate the transfer of the cell production capability away from specialized facilities directly to the clinical care sites.

Other Stem Cell Therapies

Autoimmune Diseases. Stem cell therapy is under clinical investigation by third parties for the treatment of other diseases. Clinical studies have suggested a potential role for stem cell therapy in treatment of

autoimmune diseases such as rheumatoid arthritis, multiple sclerosis and lupus erythematosus. The generic cause of these diseases is a malfunctioning immune system, including T-lymphocytes. Clinical trials in which the patient receives treatment resulting in immune ablation (usually involving myelotoxic cancer drugs or radiation), followed by stem cell therapy to restore the bone marrow and cells of the blood and immune system, have demonstrated remission of the autoimmune disease in some patients.

Organ Transplantation. Recently, a number of academic and corporate researchers and companies have identified the potential use of stem cell therapy to facilitate successful solid organ and tissue transplants between human donors and recipients, as well as using organs from non-human species for transplantation into humans. These proposed applications are based on the observation that donor-specific bone marrow, infused concurrent with or prior to the organ transplant, can provide for reduction of the normal immune rejection response by the transplant recipient (e.g. heart, lung, liver or kidney transplants).

A major limitation to the use of stem cell therapy in solid organ transplant is the limited availability of sufficient amounts of bone marrow to obtain a desired therapeutic response of immune tolerization. This limitation is particularly problematic when cadaveric donor organs are available, which has traditionally been the source of cells for these procedures. Bone marrow is also often available from the cadaveric donor, but only in a limited amount. Normally this amount may be sufficient for one transplant, but a donor might provide multiple organs for transplant into multiple recipients. Aastrom believes that the ability to expand the available bone marrow ex vivo will enhance the use of stem cell therapy for such transplant procedures and may pursue development of its products for application in such therapy in the future.

AASTROM PRODUCT CANDIDATES FOR EX VIVO GENE THERAPY

A novel form of cell therapy is ex vivo gene therapy. For this type of cell therapy, cells procured from the patient or a donor are genetically modified prior to their infusion into the patient. Analogous to other cell therapies, the ability to produce a therapeutic dose of these gene-modified cells is a major limitation to the commercialization of these cell therapies. This limitation is further exacerbated by the additional requirement that the cells be genetically modified under conditions that are sterile and comply with GMP.

Gene therapy is a therapeutic modality that holds the potential to significantly impact the delivery of healthcare and the delivery of therapeutically useful protein-based drugs within the body. Gene therapies are generally targeted at the introduction of a missing normal gene into otherwise defective human tissue, or the introduction of novel biologic capability into the body via the introduction of a gene not ordinarily present (for example, genes providing for the enhanced recognition and destruction or inhibition of the HIV-1 virus). The major developmental focus of the ex vivo gene therapy industry has been to identify the therapeutic gene of interest, insert it into a suitable vector that can be used to transport and integrate the gene into the DNA of the target cell, and then cause the gene to become expressed. The Company believes that for ex vivo gene therapy to progress to clinical applications, a process to produce a sufficient quantity of therapeutic cells is required as is an efficient means to insert the gene vector into target cells. Gene therapy is still in an early stage of development by third parties. The Company's business opportunity is dependent upon the successful development and regulatory approval of individual gene therapy applications. No assurance can be given that such applications will be developed or approved or that the Company's processes or product candidates will find successful applications in such therapies. Successful development of the Company's processes and product candidates for application in ex vivo gene therapy will require substantial additional research and development, including clinical testing, and will be subject to the Company's ability to finance such activities on acceptable terms, if at all. See "Risk Factors--Future Capital Needs; Uncertainty of Additional Funding."

THE AASTROM CPS FOR GENE THERAPY (GT-CPS)

The Aastrom CPS has been designed to produce cells for therapy and the Company believes that the Aastrom CPS may be useful in many potential ex vivo gene therapy applications. Further, the Company

anticipates that its proprietary stem cell production process technology implemented by the Aastrom CPS may provide the conditions for clinical scale stem cell division, and enable or enhance the introduction of therapeutic genes into stem cell DNA. The Company believes that its technology may also enable expansion of more mature progeny of these stem cells to create a gene therapy cell product with potential short and long term therapeutic effect.

The Company has two principal objectives for the development of Aastrom GT-CPS: (i) the enablement of stem cell gene therapies for a variety of hematologic and other disorders, based on the GT-CPS's ability to enable large scale stem cell division ex vivo; and (ii) the enablement of gene transfer and therapeutic cell production by local and regional primary patient care facilities and ancillary service laboratories.

THE AASTROM GENE LOADER

The Aastrom Gene Loader product technology, which is under development, is being designed to enhance the efficiency and reliability of the transfer of new therapeutic genes, which are carried by vectors, into the target cell. This process, which is typically inefficient in many human cells inhibits many ex vivo gene therapies from moving forward in the clinic. The Aastrom Gene Loader is being designed to incorporate the Company's proprietary directed motion gene transfer technology. Complete product development is expected to require additional funding sources or collaborations with others, or both.

The Company believes that these issues represent a general bottleneck for other companies pursuing ex vivo gene therapy clinical applications. The Company's technology under development may favorably influence these gene therapy applications, the development of which are impeded due to low transduction efficiencies and the resultant need for use of extreme quantities of gene vectors and/or target "delivery" tissues.

STRATEGIC RELATIONSHIPS

On October 22, 1993, the Company entered into a Distribution Agreement (the "Distribution Agreement") with Cobe for Cobe to be the Company's exclusive, worldwide distributor of the Aastrom CPS for stem cell therapy applications (the "Stem Cell Therapy Applications"). Under the terms of the Company's Distribution Agreement with Cobe, other than with respect to sales to affiliates, the Company is precluded from selling the Aastrom CPS to customers for stem cell therapy applications. The Company has, however, reserved the right to sell the Aastrom CPS for: (i) all diagnostic or other non-therapeutic clinical applications; (ii) all gene therapy or gene transfer applications, including those for stem cells; (iii) all non-human applications; (iv) certain permitted clinical research applications; and (v) all applications that are labeled not for human use. The Company has also reserved the unconditional right to sell other products under development, including but not limited to products based upon its gene loading technology. The initial term of the Distribution Agreement expires on October 22, 2003, and Cobe has the option to extend the term for an additional ten-year period. The Company is responsible for the expenses to obtain FDA and other regulatory approval in the United States, while Cobe is responsible for the expenses to obtain regulatory approval in foreign countries to allow for worldwide marketing of the Aastrom CPS for Stem Cell Therapy Applications. See "Risk Factors--Consequences of Cobe Relationship."

Under the terms of the Distribution Agreement, the Company will realize approximately 58% to 62% of the net sales price at which Cobe ultimately sells the Aastrom CPS for Stem Cell Therapy Applications, subject to certain negotiated discounts and volume-based adjustments and subject to the obligation of the Company to make aggregate royalty payments of up to 5% to certain licensors of its technology. The Company is also entitled to a premium on United States sales in any year in which worldwide sales exceed specified levels.

The Distribution Agreement may be terminated by Cobe upon twelve months prior notice to the Company in the event that any person or entity other than Cobe beneficially owns more than 50% of the Company's outstanding Common Stock or voting securities. The Distribution Agreement may also be terminated by Cobe at any time after December 31, 1997 if Cobe determines that commercialization of the Aastrom CPS for stem cell therapy on or prior to December 31, 1998 is unlikely.

In conjunction with the Distribution Agreement, the Company also entered into a Stock Purchase Agreement with Cobe (the "Cobe Stock Agreement"), whereby Cobe acquired certain option, registration, preemptive and other rights pertaining to shares of the Company's stock. Pursuant to such preemptive rights, Cobe has elected to purchase $5,000,000 of Common Stock in this offering at the initial public offering price per share. See "Description of Capital Stock--Rights of Cobe" and "Certain Transactions."

MANUFACTURING

The Company has no current intention of internally manufacturing its product candidates and, accordingly, is developing relationships with third party manufacturers which are FDA registered as suppliers for the manufacture of medical products.

On May 10, 1994, the Company entered into a Collaborative Product Development Agreement with SeaMED Corporation, ("SeaMED"). Pursuant to this agreement, the Company and SeaMED will collaborate on the further design of certain instrument components in the Aastrom CPS, and enable SeaMED to manufacture pre-production units of the instrument components for laboratory and clinical evaluation. The Company is paying SeaMED for its design and pre-production work on a "time and materials" basis, utilizing SeaMED's customary hourly billing rates and actual costs for materials. Subject to certain conditions, the Company has committed to enter into a manufacturing agreement with SeaMED for commercial manufacture of the instrument components for three years after shipment by SeaMED of the first commercial unit pursuant to a pricing formula set forth in the agreement. The Company retains all proprietary rights to its intellectual property which is utilized by SeaMED pursuant to this agreement.

On November 8, 1994, the Company entered into a Collaborative Product Development Agreement with Ethox Corporation ("Ethox"). Pursuant to this agreement, the Company and Ethox will collaborate on the further design of certain bioreactor assembly and custom tubing kit components of the Aastrom CPS, and enable Ethox to manufacture pre-production units of such components for laboratory and clinical evaluation. The Company is paying Ethox for its design and production work on a "time and materials" basis, utilizing Ethox's customary hourly billing rates and actual costs for materials. The Company retains all proprietary rights to its intellectual property which are utilized by Ethox pursuant to this Agreement.

In April 1996, the Company entered into a five-year License and Supply Agreement with Immunex to purchase and resell certain cytokines and ancillary materials for use in conjunction with the Aastrom CPS. The agreement required the Company to pay Immunex an initial up-front fee of $1,500,000 to be followed by subsequent annual renewal payments equal to $1,000,000 per year during the term of the agreement in addition to payment for supplies purchased by the Company. Unless earlier terminated or renewed by the Company for an additional 5 year term, the agreement will expire in April 2001. The agreement may be terminated by either party effective immediately upon written notice of termination to the other party in the event that such party materially breaches the agreement and such breach continues unremedied after notice and expiration of a specified cure period or in the event that a bankruptcy proceeding is commenced against a party and is not dismissed or stayed within a 45 day period. In addition, Immunex has the right to cease the supply to the Company of cytokines and ancillary materials if the Company fails to purchase a minimum amount of its forecasted annual needs from Immunex after notice to the Company and expiration of a specified cure period. The Company also has the right to terminate the agreement at any time subject to the payment to Immunex of a specified amount for liquidated damages. In the event that Immunex elects to cease to supply to the Company cytokines and ancillary materials or is prevented from supplying such materials to the Company by reason of force majeure, limited manufacturing rights will be transferred to the Company under certain circumstances. There is, however, no assurance that the Company could successfully manufacture the compounds itself or identify others that could manufacture these compounds to acceptable quality standards and costs, if at all.

On December 16, 1996, the Company entered into a Collaborative Supply Agreement with Anchor Advanced Products, Inc., Mid-State Plastics Division ("MSP"). Under this agreement, MSP will conduct both pre-production manufacturing development and commercial manufacturing and assembly of the cell cassette component of the Aastrom CPS for the Company. During the initial phase of the seven-year agreement, the

Company will pay MSP for its development activities on a time and materials basis. Upon reaching certain commercial manufacturing volumes, MSP will be paid by the Company on a per unit basis for cell cassettes delivered to the Company under a pricing formula specified in the agreement. Throughout the term of this agreement, the Company has agreed to treat MSP as its preferred supplier of cell cassettes, using MSP as its supplier of at least 60% of its requirements for cell cassettes.

There can be no assurance that the Company will be able to continue its present arrangements with its suppliers, supplement existing relationships or establish new relationships or that the Company will be able to identify and obtain the ancillary materials that are necessary to develop its product candidates in the future. The Company's dependence upon third parties for the supply and manufacture of such items could adversely affect the Company's ability to develop and deliver commercially feasible products on a timely and competitive basis. See "Risk Factors--Manufacturing and Supply Uncertainties; Dependence on Third Parties."

PATENTS AND PROPRIETARY RIGHTS

The Company's success depends in part on its ability, and the ability of its licensors, to obtain patent protection for its products and processes. The Company and its licensors are seeking patent protection for technologies related to (i) human stem and progenitor cell production processes; (ii) bioreactors and systems for stem and progenitor cell production and production of other cells; and (iii) gene transfer devices and processes. The Company has exclusive license rights to five issued United States patents that present claims to (i) certain methods for ex vivo stem cell division as well as ex vivo human hematopoietic stem cell stable genetic transformation and expanding and harvesting a human hematopoietic stem cell pool; (ii) certain apparatus for cell culturing, including a bioreactor suitable for culturing human stem cells or human hematopoietic cells; and (iii) certain methods of infecting or transfecting target cells with vectors. Patents equivalent to two of these United States patents have also been issued in other jurisdictions: one in Australia and another in Canada and under the European Patent Convention. These eight issued patents are due to expire beginning in 2006, through 2013. In addition, the Company and its exclusive licensors have filed applications for patents in the United States and equivalent applications in certain other countries claiming other aspects of the Company's products and processes, including five United States patent applications and corresponding applications in other countries related to various components of the Aastrom CPS. Of these pending patent applications, the Company has received notices of allowance for certain claims in a United States application relating to methods for obtaining ex vivo stem cell division, and claims in a European Patent Convention application and in a United States application relating to methods for efficient proliferation of hematopoietic cells in culture.

The validity and breadth of claims in medical technology patents involve complex legal and factual questions and, therefore, may be highly uncertain. No assurance can be given that any patents based on pending patent applications or any future patent applications of the Company or its licensors will be issued, that the scope of any patent protection will exclude competitors or provide competitive advantages to the Company, that any of the patents that have been or may be issued to the Company or its licensors will be held valid if subsequently challenged or that others will not claim rights in or ownership of the patents and other proprietary rights held or licensed by the Company. Furthermore, there can be no assurance that others have not developed or will not develop similar products, duplicate any of the Company's products or design around any patents that have been or may be issued to the Company or its licensors. Since patent applications in the United States are maintained in secrecy until patents issue, the Company also cannot be certain that others did not first file applications for inventions covered by the Company's and its licensors' pending patent applications, nor can the Company be certain that it will not infringe any patents that may issue to others on such applications.

The Company relies on certain licenses granted by the University of Michigan and Dr. Cremonese for the majority of its patent rights. If the Company breaches such agreements or otherwise fails to comply with such agreements, or if such agreements expire or are otherwise terminated, the Company may lose its rights under the patents held by the University of Michigan and Dr. Cremonese, which would have a material adverse effect on the Company's business, financial condition and results of operations. See "--University of Michigan Research Agreement and License Agreement" and "--License Agreement with J.G. Cremonese."

The Company also relies on trade secrets and unpatentable know-how which it seeks to protect, in part, by confidentiality agreements. It is the Company's policy to require its employees, consultants, contractors, manufacturers, outside scientific collaborators and sponsored researchers, and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with the Company. These agreements provide that all confidential information developed or made known to the individual during the course of the individual's relationship with the Company is to be kept confidential and not disclosed to third parties except in specific limited circumstances. The Company also requires signed confidentiality or material transfer agreements from any company that is to receive its confidential data. In the case of employees, consultants and contractors, the agreements generally provide that all inventions conceived by the individual while rendering services to the Company shall be assigned to the Company as the exclusive property of the Company. There can be no assurance, however, that these agreements will not be breached, that the Company would have adequate remedies for any breach, or that the Company's trade secrets or unpatentable know-how will not otherwise become known or be independently developed by competitors.

The Company's success will also depend in part on its ability to develop commercially viable products without infringing the proprietary rights of others. The Company has not conducted freedom of use patent searches and no assurance can be given that patents do not exist or could not be filed which would have an adverse effect on the Company's ability to market its products or maintain its competitive position with respect to its products. If the Company's technology components, devices, designs, products, processes or other subject matter are claimed under other existing United States or foreign patents or are otherwise protected by third party proprietary rights, the Company may be subject to infringement actions. In such event, the Company may challenge the validity of such patents or other proprietary rights or be required to obtain licenses from such companies in order to develop, manufacture or market its products. There can be no assurances that the Company would be able to obtain such licenses or that such licenses, if available, could be obtained on commercially reasonable terms. Furthermore, the failure to either develop a commercially viable alternative or obtain such licenses could result in delays in marketing the Company's proposed products or the inability to proceed with the development, manufacture or sale of products requiring such licenses, which could have a material adverse effect on the Company's business, financial condition and results of operations. If the Company is required to defend itself against charges of patent infringement or to protect its own proprietary rights against third parties, substantial costs will be incurred regardless of whether the Company is successful. Such proceedings are typically protracted with no certainty of success. An adverse outcome could subject the Company to significant liabilities to third parties and force the Company to curtail or cease its development and sale of its products and processes.

Certain of the Company's and its licensors' research has been or is being funded in part by the Department of Commerce and by a Small Business Innovation Research Grant obtained from the Department of Health and Human Services. As a result of such funding, the United States Government has certain rights in the technology developed with the funding. These rights include a non-exclusive, paid-up, worldwide license under such inventions for any governmental purpose. In addition, the government has the right to require the Company to grant an exclusive license under any of such inventions to a third party if the government determines that (i) adequate steps have not been taken to commercialize such inventions, (ii) such action is necessary to meet public health or safety needs or (iii) such action is necessary to meet requirements for public use under federal regulations. Additionally, under the federal Bayh Dole Act, a party which acquires an exclusive license for an invention that was partially funded by a federal research grant is subject to the following government rights: (i) products using the invention which are sold in the U.S. are to be manufactured substantially in the U.S., unless a waiver is obtained; (ii) if the licensee does not pursue reasonable commercialization of a needed product using the invention, the government may force the granting of a license to a third party who will make and sell the needed product; and (iii) the U.S. government may use the invention for its own needs.

UNIVERSITY OF MICHIGAN RESEARCH AGREEMENT AND LICENSE AGREEMENT

In August 1989, the Company entered into a Research Agreement (the "Research Agreement") with the University, pursuant to which the Company funded a research project at the University under the direction of

Stephen G. Emerson, M.D., Ph.D., as the principal inventor, together with Michael F. Clarke, M.D., and Bernhard O. Palsson, Ph.D., as co-inventors. Pursuant to the Research Agreement, the Company was granted the right to acquire an exclusive, worldwide license to utilize all inventions, know-how and technology derived from the research project. By Extension Agreements, the Company and the University extended the scope and term of the Research Agreement through December 1994.

On March 13, 1992, the Company and the University entered into the License Agreement, as contemplated by the Research Agreement. There have been clarifying amendments to the License Agreement, dated March 13, 1992, October 8, 1993 and June 21, 1995. Pursuant to this License Agreement, (i) the Company acquired exclusive worldwide license rights to the patents and know-how for the production of blood cells and bone marrow cells as described in the University's research project or which resulted from certain further research conducted through December 31, 1994, and (ii) the Company is obligated to pay to the University a royalty equal to 2% of the net sales of products which are covered by the University's patents. Unless it is terminated earlier at the Company's option or due to a material breach by the Company, the License Agreement will continue in effect until the latest expiration date of the patents to which the License Agreement applies.

LICENSE AGREEMENT WITH J. G. CREMONESE

In July 1992, the Company entered into a License Agreement with Joseph G. Cremonese pursuant to which the Company obtained exclusive worldwide license rights for all fields of use, to utilize U.S. Patent No. 4,839,292, entitled "Cell Culture Flask Utilizing a Membrane Barrier," which patent was issued to Dr. Cremonese on June 13, 1989, and to utilize any other related patents that might be issued to Dr. Cremonese. Pursuant to the License Agreement, the Company has reimbursed Dr. Cremonese for $25,000 of his patent costs. Under the terms of the License Agreement, the Company is to pay to Dr. Cremonese a royalty of 3% of net sales of the products which are covered by said patent, subject to specified minimum royalty payments ranging from $20,000 to $50,000 per year, commencing in calendar year 1997. Unless earlier terminated, the License Agreement will continue in effect until the latest expiration date of the patents to which the License Agreement applies, which latest expiration date is currently August 2009. The License Agreement may be terminated by either party upon default by the other party of any of its obligations under the agreement without cure after expiration of a 30-day notice period. The Company also has the right to terminate the License Agreement at any time without cause upon 30 days prior written notice to Dr. Cremonese.

GOVERNMENT REGULATION

The Company's research and development activities and the manufacturing and marketing of the Company's products are subject to the laws and regulations of governmental authorities in the United States and other countries in which its products will be marketed. Specifically, in the United States the FDA, among other activities, regulates new product approvals to establish safety and efficacy of these products. Governments in other countries have similar requirements for testing and marketing. In the U.S., in addition to meeting FDA regulations, the Company is also subject to other federal laws, such as the Occupational Safety and Health Act and the Environmental Protection Act, as well as certain state laws.

REGULATORY PROCESS IN THE UNITED STATES

To the Company's knowledge, it is the first to develop a culture system for ex vivo human cell production to be sold for therapeutic applications. Therefore, to a certain degree, the manner in which the FDA will regulate the Company's products is uncertain.

The Company's products are potentially subject to regulation as medical devices under the Federal Food, Drug, and Cosmetic Act, and as biological products under the Public Health Service Act, or both. Different regulatory requirements may apply to the Company's products depending on how they are categorized by the FDA under these laws. To date, the FDA has indicated that it intends to regulate the Aastrom CPS product for

stem cell therapy as a Class III medical device through the Center for Biologics Evaluation and Research. However, there can be no assurance that FDA will ultimately regulate the Aastrom CPS as a medical device.

Further, it is unclear whether the FDA will separately regulate the cell therapies derived from the Aastrom CPS. The FDA is still in the process of developing its requirements with respect to somatic cell therapy and gene cell therapy products and has recently issued a draft document concerning the regulation of umbilical cord blood stem cell products. If the FDA adopts the regulatory approach set forth in the draft document, the FDA may require separate regulatory approval for such cells in some cases. The FDA also recently proposed a new type of license, called a biologic license application ("BLA"), for autologous cells manipulated ex vivo and intended for structural repair or reconstruction. This proposal may indicate that the FDA will extend a similar approval requirement to other types of autologous cellular therapies, such as autologous cells for stem cell therapy. Any such additional regulatory or approval requirements could significantly delay the introduction of the Company's product candidates to the market, and have a material adverse impact on the Company.

Approval of new medical devices and biological products is a lengthy procedure leading from development of a new product through preclinical and clinical testing. This process takes a number of years and the expenditure of significant resources. There can be no assurance that the Company's product candidates will ultimately receive regulatory approval.

Regardless of how the Company's product candidates are regulated, the Federal Food, Drug, and Cosmetic Act and other Federal statutes and regulations govern or influence the research, testing, manufacture, safety, labeling, storage, recordkeeping, approval, distribution, use, reporting, advertising and promotion of such products. Noncompliance with applicable requirements can result in civil penalties, recall, injunction or seizure of products, refusal of the government to approve or clear product approval applications or to allow the Company to enter into government supply contracts, withdrawal of previously approved applications and criminal prosecution.

DEVICES

In order to obtain FDA approval of a new medical device sponsors must generally submit proof of safety and efficacy. In some cases, such proof entails extensive clinical and preclinical laboratory tests. The testing, preparation of necessary applications and processing of those applications by the FDA is expensive and may take several years to complete. There can be no assurance that the FDA will act favorably or in a timely manner in reviewing submitted applications, and the Company may encounter significant difficulties or costs in its efforts to obtain FDA approvals which could delay or preclude the Company from marketing any products it may develop. The FDA may also require postmarketing testing and surveillance of approved products, or place other conditions on the approvals. These requirements could cause it to be more difficult or expensive to sell the products, and could therefore restrict the commercial applications of such products. Product approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems occur following initial marketing. For patented technologies, delays imposed by the governmental approval process may materially reduce the period during which the Company will have the exclusive right to exploit such technologies.

If human clinical trials of a proposed device are required and the device presents significant risk, the manufacturer or distributor of the device will have to file an IDE application with the FDA prior to commencing human clinical trials. The IDE application must be supported by data, typically including the results of pre-clinical and laboratory testing. If the IDE application is approved, human clinical trials may commence at a specified number of investigational sites with the number of patients approved by the FDA.

The FDA categorizes devices into three regulatory classifications subject to varying degrees of regulatory control. In general, Class I devices require compliance with labeling and recordkeeping regulations, GMPs, 510(k) pre-market notification, and are subject to other general controls. Class II devices may be subject to additional regulatory controls, including performance standards and other special controls, such as postmarket surveillance. Class III devices, which are either invasive or life-sustaining products, or new products never before

marketed (for example, non-"substantially equivalent" devices), require clinical testing to demonstrate safety and effectiveness and FDA approval prior to marketing and distribution. The FDA also has the authority to require clinical testing of Class I and Class II devices.

If a manufacturer or distributor of medical devices cannot establish that a proposed device is substantially equivalent, the manufacturer or distributor must submit a PMA application to the FDA. A PMA application must be supported by extensive data, including preclinical and human clinical trial data, to prove the safety and efficacy of the device. Upon receipt, the FDA conducts a preliminary review of the PMA application. If sufficiently complete, the submission is declared filed by the FDA. By regulation, the FDA has 180 days to review a PMA application once it is filed, although PMA application reviews more often occur over a significantly protracted time period, and may take approximately one year or more from the date of filing to complete.

Some of the Company's products may be classified as Class II or Class III medical devices. The Company has submitted several IDEs for the Aastrom CPS, and is currently conducting a pre-pivotal clinical study under one of these IDEs. The Company believes that the Aastrom CPS product will be regulated by the FDA as a Class III device, although there can be no assurance that the FDA will not choose to regulate this product in a different manner.

The Company and any contract manufacturer are required to be registered as a medical device manufacturer with the FDA. As such, they will be inspected on a routine basis by the FDA for compliance with the FDA's GMP regulations. These regulations will require that the Company and any contract manufacturer manufacture products and maintain documents in a prescribed manner with respect to manufacturing, testing, distribution, storage, design control and service activities, and that adequate design and service controls are implemented. The Medical Device Reporting regulation requires that the Company provide information to the FDA on deaths or serious injuries alleged to be associated with the use of its devices, as well as product malfunctions that are likely to cause or contribute to death or serious injury if the malfunction were to recur. In addition, the FDA prohibits a company from promoting an approved device for unapproved applications and reviews company labeling for accuracy.

BIOLOGICAL PRODUCTS

For certain of the Company's new products which may be regulated as biologics, the FDA requires (i) preclinical laboratory and animal testing, (ii) submission to the FDA of an investigational new drug ("IND") application which must be effective prior to the initiation of human clinical studies, (iii) adequate and well-controlled clinical trials to establish safety and efficacy of the product for its intended use, (iv) submission to the FDA of a product license application ("PLA") and establishment license application ("ELA") and (v) review and approval of the PLA and ELA as well as inspections of the manufacturing facility by the FDA prior to commercial marketing of the product.

Preclinical testing covers laboratory evaluation of product chemistry and formulation as well as animal studies to assess the safety and efficacy of the product. The results of these tests are submitted to the FDA as part of the IND. Following the submission of an IND, the FDA has 30 days to review the application and raise safety and other clinical trial issues. If the Company is not notified of objections within that period, clinical trials may be initiated. Clinical trials are typically conducted in three sequential phases. Phase I represents the initial administration of the drug or biologic to a small group of humans, either healthy volunteers or patients, to test for safety and other relevant factors. Phase II involves studies in a small number of patients to assess the efficacy of the product, to ascertain dose tolerance and the optimal dose range and to gather additional data relating to safety and potential adverse effects. Once an investigational drug is found to have some efficacy and an acceptable safety profile in the targeted patient population, multi-center Phase III studies are initiated to establish safety and efficacy in an expanded patient population and multiple clinical study sites. The FDA reviews both the clinical plans and the results of the trials and may request the Company to discontinue the trials at any time if there are significant safety issues.

The results of the preclinical tests and clinical trials are submitted to the FDA in the form of a PLA for marketing approval. The testing and approval process is likely to require substantial time and effort and there can be no assurance that any approval will be granted on a timely basis, if at all. Additional animal studies or clinical trials may be requested during the FDA review period that may delay marketing approval. After FDA approval for the initial indications, further clinical trials may be necessary to gain approval for the use of the product for additional indications. The FDA requires that adverse effects be reported to the FDA and may also require post-marketing testing to monitor for adverse effects, which can involve significant expense.

Under current requirements, facilities manufacturing biological products must be licensed. To accomplish this, an ELA must be filed with the FDA. The ELA describes the facilities, equipment and personnel involved in the manufacturing process. An establishment license is granted on the basis of inspections of the applicant's facilities in which the primary focus is on compliance with GMP and the ability to consistently manufacture the product in the facility in accordance with the PLA. If the FDA finds the inspection unsatisfactory, it may decline to approve the ELA, resulting in a delay in production of products. Although reviewed separately, approval of both the PLA and ELA must be received prior to commercial marketing of a cellular biologic.

As part of the approval process for human biological products, each manufacturing facility must be registered and inspected by FDA prior to marketing approval. In addition, state agency inspections and approvals may also be required for a biological product to be shipped out of state.

REGULATORY PROCESS IN EUROPE

The Company believes that the Aastrom CPS will be regulated in Europe as a Class IIb medical device, under the authority of the new Medical Device Directives ("MDD") being implemented by European Union ("EU") member countries. This classification applies to medical laboratory equipment and supplies including, among other products, many devices that are used for the collection and processing of blood for patient therapy. Certain ancillary products (e.g., biological reagents) used with the Aastrom CPS may be considered Class III medical devices.

The MDD regulations vest the authority to permit affixing of the "CE Mark" with various "Notified Bodies." These are private and state organizations which operate under license from the EU to certify that appropriate quality assurance standards and compliance procedures are followed by developers and manufacturers of medical device products or, alternatively, that a manufactured medical product meets a more limited set of requirements. Notified Bodies are also charged with responsibility for determination of the appropriate standards to apply to a medical product. Receipt of permission to affix the CE Mark enables a company to sell a medical device in all EU member countries. Other registration requirements may also need to be satisfied in certain countries, although there is a general trend among EU member countries not to impose additional requirements beyond those specified for CE Mark certification.

COMPETITION

The biotechnology and medical device industries are characterized by rapidly evolving technology and intense competition. The Company's competitors include major pharmaceutical, medical device, medical products, chemical and specialized biotechnology companies, many of which have financial, technical and marketing resources significantly greater than those of the Company. In addition, many biotechnology companies have formed collaborations with large, established companies to support research, development and commercialization of products that may be competitive with those of the Company. Academic institutions, governmental agencies and other public and private research organizations are also conducting research activities and seeking patent protection and may commercialize products on their own or through joint ventures. The Company's product development efforts are primarily directed toward obtaining regulatory approval to market the Aastrom CPS for stem cell therapy. That market is currently dominated by the bone marrow harvest and PBPC collection methods. The Company's clinical data, although early, is inconclusive as to whether or not cells expanded in the Aastrom CPS will enable hematopoietic recovery within the time frames currently achieved by

the bone marrow harvest and PBPC collection methods. In addition, the bone marrow harvest and PBPC collection methods have been widely practiced for a number of years and, recently, the patient costs associated with these procedures have begun to decline. There can be no assurance that the Aastrom CPS method, if approved for marketing, will prove to be competitive with these established collection methods on the basis of hematopoietic recovery time, cost or otherwise. The Company is aware of certain other products manufactured or under development by competitors that are used for the prevention or treatment of certain diseases and health conditions which the Company has targeted for product development. In particular, the Company is aware that competitors such as Amgen, Inc., CellPro, Incorporated, Systemix, Inc., Baxter Healthcare Corp. and RPR are in advanced stages of development of technologies and products for use in stem cell therapy and other market applications currently being pursued by the Company. In addition, Cobe, a significant shareholder of the Company, is a market leader in the blood cell processing products industry and, accordingly, a potential competitor of the Company. There can be no assurance that developments by others will not render the Company's product candidates or technologies obsolete or noncompetitive, that the Company will be able to keep pace with new technological developments or that the Company's product candidates will be able to supplant established products and methodologies in the therapeutic areas that are targeted by the Company. The foregoing factors could have a material adverse effect on the Company's business, financial condition and results of operations.

The Company's products under development are expected to address a broad range of existing and new markets. The Company believes that its stem cell therapy products will, in large part, face competition by existing procedures rather than novel new products. The Company's competition will be determined in part by the potential indications for which the Company's products are developed and ultimately approved by regulatory authorities. In addition, the first product to reach the market in a therapeutic or preventive area is often at a significant competitive advantage relative to later entrants to the market. Accordingly, the relative speed with which the Company or its corporate partners can develop products, complete the clinical trials and approval processes and supply commercial quantities of the products to the market are expected to be important competitive factors. The Company's competitive position will also depend on its ability to attract and retain qualified scientific and other personnel, develop effective proprietary products, develop and implement production and marketing plans, obtain and maintain patent protection and secure adequate capital resources. The Company expects its products, if approved for sale, to compete primarily on the basis of product efficacy, safety, patient convenience, reliability, value and patent position.

FACILITIES

The Company leases approximately 20,000 square feet of office and research and development space in Ann Arbor, Michigan under a lease agreement expiring in May 1998. The lease is renewable at the option of the Company for up to an additional five-year term. The Company believes that its facilities will be adequate for its currently anticipated needs. Contract manufacturing or additional facilities will be required in the future to support expansion of research and development and to manufacture products.

EMPLOYEES

As of November 30, 1996, the Company employed approximately 65 individuals full-time. A significant number of the Company's management and professional employees have had prior experience with pharmaceutical, biotechnology or medical product companies. None of the Company's employees are covered by collective bargaining agreements, and management considers relations with its employees to be good.

LEGAL PROCEEDINGS

The Company is not party to any material legal proceedings, although from time to time it may become involved in disputes in connection with the operation of its business.

DIRECTORS AND EXECUTIVE OFFICERS

The following table provides information concerning directors and executive officers of the Company as of November 30, 1996:

NAME	AGE	POSITION
Robert J. Kunze(2)(3).....	61	Chairman of the Board; Director
R. Douglas Armstrong, Ph.D.(3)...	43	President and Chief Executive Officer; Director
James Maluta.....	49	Vice President, Product Development
Todd E. Simpson.....	35	Vice President, Finance & Administration; Chief Financial Officer; Secretary; and Treasurer
Walter C. Ogier.....	40	Vice President, Marketing
Thomas E. Muller, Ph.D.....	61	Vice President, Regulatory Affairs
Alan K. Smith, Ph.D.....	41	Vice President, Research
Stephen G. Emerson, M.D., Ph.D...	43	Director; Scientific Advisor
Albert B. Deisseroth, M.D., Ph.D.(2).....	55	Director; Scientific Advisor
G. Bradford Jones(1)(3).....	41	Director
Horst R. Witzel, Dr.-Ing.....	69	Director
Edward C. Wood, Jr.(1)(3).....	52	Director

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(1) Member of Audit Committee.
(2) Member of Compensation Committee.
(3) Member of Executive Committee.

All directors hold office until the next election of the class for which such directors have been chosen and until their successors have been duly elected and qualified. The Company's Bylaws provide that the Board of Directors will consist of between five and nine members, and the number of directors is currently set at seven members. The Bylaws also provide that the Board of Directors will serve staggered three-year terms, or until their successors are elected and qualified. The terms of office of the Company's current directors expire as follows: Mr. Jones, Dr. Deisseroth and Mr. Wood, 1999; Mr. Kunze and Dr. Emerson, 1998; and Dr. Armstrong and Dr. Witzel, 1997. Officers are elected by and serve at the discretion of the Board of Directors. There are no family relationships among the directors or officers of the Company.

Robert J. Kunze a director of the Company since its inception in 1989, is a founder of the Company and served as its President and Chief Executive Officer through May 1991. Since 1987, he has been a General Partner of H&Q Life Science Venture Partners, a venture capital fund specializing in medical products and biotechnology investments. Mr. Kunze is also a general partner of McFarland and Dewey, an investment bank. Previous to that, Mr. Kunze was Managing Partner of Hambrecht & Quist Venture Partners. Prior to that he served as a senior executive with W.R. Grace & Co. and General Electric. Mr. Kunze also serves on the Board of Directors of Escalon Medical Corporation.

R. Douglas Armstrong, Ph.D. joined the Company in June 1991 as a director and as its President and Chief Executive Officer. From 1987 to 1991, Dr. Armstrong served in different capacities, including as Executive Vice President and a Trustee of the La Jolla Cancer Research Foundation ("LJCRF"), a 250-employee scientific research institute located in San Diego, California. Dr. Armstrong received his doctorate in Pharmacology and Toxicology from the Medical College of Virginia, and has held faculty and staff positions at Yale University, University of California, San Francisco, LJCRF and University of Michigan. Dr. Armstrong also serves on the Board of Directors of Nephros Therapeutics, Inc.

James Maluta joined the Company in August 1992 as Vice President, Product Development. Mr. Maluta has a broad background in the development and manufacturing of medical devices, with 25 years of experience in the industry, principally with OHMEDA and with Cobe BCT, Inc. While with Cobe BCT, Inc., Mr. Maluta was Program Manager for the Cobe Spectra Apheresis System, a device for blood cell processing and apheresis. Mr. Maluta held other engineering management positions and also was director of Quality Assurance for Cobe BCT. Mr. Maluta received his degree in electrical engineering from the University of Wisconsin.

Todd E. Simpson joined the Company in January 1996 as Vice President, Finance and Administration and Chief Financial Officer and is also the Company's Secretary and Treasurer. Prior to that, Mr. Simpson was Treasurer of Integra LifeSciences Corporation ("Integra"), a biotechnology company, which acquired Telios Pharmaceuticals, Inc. ("Telios") in August 1995 in connection with the reorganization of Telios under Chapter 11 of the U.S. Bankruptcy Code. Mr. Simpson served as Vice President of Finance and Chief Financial Officer of Telios up until its acquisition by Integra and held various other financial positions at Telios after joining that company in February 1992. Telios was a publicly-held company engaged in the development of pharmaceutical products for the treatment of dermal and ophthalmic wounds, fibrotic disease, vascular disease, and osteoporosis. From August 1983 through February 1992, Mr. Simpson practiced public accounting with the firm of Ernst & Young, LLP. Mr. Simpson is a Certified Public Accountant and received his B.S. degree in Accounting and Computer Science from Oregon State University.

Walter C. Ogier joined the Company in March 1994 as Director of Marketing and was promoted to Vice President, Marketing during 1995. Prior to that, Mr. Ogier was at Baxter Healthcare Corporation's Immunotherapy Division, where he served as Director, Business Development from 1992 to 1994 and as Manager, Marketing and Business Development in charge of the company's cell therapy product lines from 1990 to 1992. Mr. Ogier previously held positions with Ibbottson Associates and with the Business Intelligence Center at SRI International (formerly Stanford Research Institute). Mr. Ogier received his B.A. degree in Chemistry from Williams College in 1979 and his Masters of Management degree from the Yale School of Management in 1987.

Thomas E. Muller, Ph.D. joined the Company in May 1994 as Vice President, Regulatory Affairs. Prior to that, Dr. Muller was Director, Biomedical Systems with W.R. Grace & Company in Lexington, Massachusetts. Prior to this, Dr. Muller was Vice President, Engineering and Director of Research and Development with the Renal Division of Baxter Healthcare in Deerfield, Illinois. Dr. Muller has also served as Adjunct Professor at Columbia University and as Visiting Professor at the University of Gent, Belgium. Dr. Muller graduated from the Technical University in Budapest, Hungary, in 1956 with a B.S. in Chemical Engineering. Dr. Muller received his M.S. degree in 1959 and was awarded a Ph.D. in 1964, both in Polymer Chemistry, from McGill University.

Alan K. Smith, Ph.D. joined the Company in November 1995 as Vice President, Research. Previously, Dr. Smith was Vice President of Research and Development at Geneic Sciences, Inc., a developmental stage bone marrow transplantation company. Prior to that, Dr. Smith held the position of Director, Cell Separations Research and Development of the Immunotherapy Division of Baxter Healthcare Corporation. In this capacity, he was responsible for the research and development activities for a stem cell concentration system approved for clinical use in Europe and currently in pivotal clinical trials in the United States. Dr. Smith has also held positions as Research and Development Manager at BioSpecific Technologies, as Director of Biochemistry at HyClone Laboratories and as a member of the Board of Directors of Dallas Biomedical. Dr. Smith received his B.S. degree in Chemistry from Southern Utah State College in 1976 and a Ph.D. in Biochemistry from Utah State University in 1983.

Stephen G. Emerson, M.D., Ph.D. a director since the inception of the Company in 1989, is a scientific founder of the Company and has been an active advisor of the Company since that time. Dr. Emerson has been a Professor of Medicine at the University of Pennsylvania since 1994 where he serves as head of Hematology and Oncology. From 1991 to 1994, Dr. Emerson was an Associate Professor of Medicine at the University of Michigan. Dr. Emerson received his doctorate degrees in Medicine and Cell Biology/Immunology from Yale University. He completed his internship and residency at Massachusetts General Hospital and his clinical and research fellowship in hematology at the Brigham and Women's Hospital, the Dana-Farber Cancer Institute and Children's Hospital Medical Center.

Albert B. Deisseroth, M.D., Ph.D. a director since August 1991, currently serves as an Ensign Professor of Medicine and the Chief, Section of Medical Oncology at Yale University and is a professor at both the University of Texas Graduate School of Biomedical Sciences and the University of Texas Health Science Center Medical

School in Houston, Texas. Prior to that, Dr. Deisseroth had been Chairman of the Department of Hematology and a Professor of Medicine and Cancer Treatment and Research at the University of Texas, M.D. Anderson Cancer Center in Houston, Texas. Previous to this, Dr. Deisseroth served as Professor of Medicine at the University of California, San Francisco, and Chief, Hematology/Oncology at the San Francisco Veteran's Administration Medical Center. Dr. Deisseroth received his doctorate degrees in Medicine and Biochemistry from the University of Rochester. Dr. Deisseroth is currently a member of the Scientific Advisory Boards of Ingenex, Inc., Genvec, Inc. and Incell.

G. Bradford Jones a director since April 1992, is a general partner of Brentwood V Ventures, L.P., the general partner of Brentwood Associates V, L.P. Brentwood Associates V, L.P. is a partnership organized by the firm Brentwood Venture Capital, which Mr. Jones joined in 1981. Mr. Jones was elected to the Board of Directors of the Company pursuant to the terms of the Series B Preferred Stock Purchase Agreement dated April 7, 1992 with the Company, of which Brentwood Associates V, L.P. is a party. Mr. Jones received a B.A. degree in Chemistry and an M.A. degree in Physics from Harvard University and M.B.A. and J.D. degrees from Stanford University. Mr. Jones also serves on the Board of Directors of Interpore International, ISOCOR, Onyx Acceptance Corporation, Plasma & Materials Technologies, and several privately-held companies.

Horst R. Witzel, Dr.-Ing. a director since June 1994, served as Chairman of the Board of Executive Directors of Schering AG in Berlin, Germany from 1986 until his retirement in 1989, whereupon he became a member of the Supervisory Board of Schering AG until 1994. Prior to that, Dr. Witzel held various leadership positions in research and development with Schering AG where he was responsible for worldwide production and technical services. Dr. Witzel received his doctorate in chemistry from the Technical University of West Berlin. Dr. Witzel also serves on the Board of Directors of The Liposome Company, Inc. and Cephalon, Inc. and is a member of the Supervisory Board of Brau and Brunnen AG.

Edward C. Wood, Jr. a director since August 1994, has served as president of Cobe BCT, Inc., a division of Cobe Laboratories, Inc., since 1991. Cobe is a subsidiary of Gambro AB, a Swedish company, and is a leading provider of blood cell processing products. Prior to that, Mr. Wood held various positions in manufacturing, research and development, and marketing with Cobe. Mr. Wood received degrees in chemistry from Harvey Mudd College and in management from the University of Colorado.

LIMITATION OF LIABILITY AND INDEMNIFICATION MATTERS

The Company has adopted provisions in its Restated Articles of Incorporation that limit the liability of its directors for monetary damages arising from a breach of their fiduciary duty as directors, except under certain circumstances which include breach of the director's duty of loyalty to the Company or its shareholders, acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of the law.

The Company's Bylaws provide that the Company shall indemnify its directors to the fullest extent authorized or permitted by the Michigan Business Corporation Act. Additionally, the Company has entered into an Indemnification Agreement, originally dated as of December 14, 1993 (the "Indemnification Agreement"), with certain of its directors, officers and other key personnel, which may, in certain cases, be broader than the specific indemnification provisions contained under applicable law. The Indemnification Agreement may require the Company, among other things, to indemnify such officers, directors and key personnel against certain liabilities that may arise by reason of their status or service as directors, officers or employees of the Company, to advance the expenses incurred by such parties as a result of any threatened claims or proceedings brought against them as to which they could be indemnified, and to cover such officers, directors and key employees under the Company's directors' and officers' liability insurance policies to the maximum extent that insurance coverage is maintained.

At present, there is no pending litigation or proceeding involving a director, officer, employee or agent of the Company where indemnification by the Company will be required or permitted. The Company is not aware of any threatened litigation or proceeding which may result in a claim for such indemnification.

EXECUTIVE COMPENSATION

The following table summarizes the compensation paid to or earned by the Company's Chief Executive Officer and all other executive officers of the Company whose salary and bonus for services rendered in all capacities to the Company during the fiscal year ended June 30, 1996 exceeded $100,000 (the "named executive officers"):

SUMMARY COMPENSATION TABLE

NAME AND 1996 PRINCIPAL POSITION	YEAR	ANNUAL COMPENSATION SALARY ($)	ANNUAL COMPENSATION BONUS ($)	OTHER ANNUAL COMPENSATION ($)	ALL OTHER COMPENSATION ($)
R. Douglas Armstrong, Ph.D. President and Chief Executive Officer	1996	$156,962	$55,000	--	$8,885(1)
James Maluta Vice President, Product Development	1996	$118,942	$10,000	--	--
Thomas E. Muller, Ph.D. Vice President, Regulatory Affairs	1996	$118,560	--	--	--
Walter C. Ogier Vice President, Marketing	1996	$106,250	$ 7,500	--	--

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(1) Consists of vacation pay to Dr. Armstrong in 1996.

1996 OPTION GRANTS

The following table contains information about the stock option grants to the named executive officers in 1996:

OPTION GRANTS IN LAST FISCAL YEAR

NAME	INDIVIDUAL GRANTS: NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED (#)	INDIVIDUAL GRANTS: % OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN FISCAL YEAR	INDIVIDUAL GRANTS: EXERCISE OR BASE PRICE ($/SH)	INDIVIDUAL GRANTS: EXPIRATION DATE	POTENTIAL REALIZED VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM(1): 5% ($)	10% ($)
R. Douglas Armstrong, Ph.D.	--	--	--	--	--	--
James Maluta	--	--	--	--	--	--
Thomas E. Muller, Ph.D.	6,667	4.3%	1.20	02/14/06	5,000	12,734
Walter C. Ogier	6,667	4.3%	1.20	02/14/06	5,000	12,734

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(1) The 5% and the 10% assumed rates of appreciation are established by the rules of the Securities and Exchange Commission and do not represent the Company's estimate or projection of the future Common Stock price. If the Common Stock price of $1.20 on the date of grant for the options granted in 1996 were to appreciate at the rates indicated, it would be $1.95 per share (at a 5% compounded appreciation) and $3.11 per share (at a 10% compounded appreciation) on the date of expiration of those options.

OPTION EXERCISES AND YEAR-END VALUES

The following table provides information about the number of shares issued upon option exercise by the named executive officers during 1996, and the value realized by the named executive officers. The table also provides information about the number and value of options held by the named executive officers at June 30, 1996:

AGGREGATED OPTION EXERCISES IN LAST FISCAL YEAR
AND FY-END OPTION VALUES

			NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FY-END (#)		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FY-END ($)(1)	
NAME	SHARES ACQUIRED ON EXERCISE (#)	VALUE REALIZED($)	EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
R. Douglas Armstrong, Ph.D.	--	--	--	--	--	--
James Maluta	29,999	86,847	16,668	--	$48,254	--
Thomas E. Muller, Ph.D.	--	--	15,000	18,334	29,925	$36,576
Walter C. Ogier	5,000	9,975	13,750	21,250	27,431	42,394

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(1) The option value represents fair market value of the underlying securities on the exercise date minus the aggregate exercise price of such options, multiplied by the number of shares of Common Stock subject to the option. For purposes of this calculation, a fair market value of $3.20 per share was used, the fair market value of the securities as determined by the Board of Directors on June 30, 1996.

No compensation intended to serve as incentive for performance to occur over a period longer than one fiscal year was paid pursuant to a long-term incentive plan during the last fiscal year to any of the persons named in the Summary Compensation Table. The Company does not have any defined benefit or actuarial plan with any of the persons named in the Summary Compensation Table under which benefits are determined primarily by final compensation or average final compensation and years of service.

EMPLOYMENT AGREEMENTS

The Company has a policy of entering into employment agreements with all of its employees, and has entered into such agreements with all of its executive officers other than Dr. Armstrong. Such employment agreements generally establish salary levels (which are subject to periodic review) and provide for customary fringe benefits such as vacation leave, sick leave and health insurance. The agreements also generally provide for the protection of confidential information and the assignment to the Company of inventions conceived by the employee during his or her employment and permit the termination of the employment relationship by either party upon fourteen days prior written notice. The following is a summary of the employment agreements between the Company and its executive officers.

The Company entered into employment agreements with no defined terms with James Maluta, Walter C. Ogier, Thomas E. Muller, Ph.D., Alan K. Smith, Ph.D. and Todd E. Simpson in June 1992, February 1994, April 1994, October 1995 and December 1995, respectively. Pursuant to these agreements, the Company agreed to pay Messrs. Maluta, Ogier, Muller, Smith and Simpson annual base salaries of $90,000, $87,500, $110,000, $122,500 and $122,500, respectively, certain of which base salaries have been increased by the Board of Directors and are subject to annual review and adjustment. Pursuant to the terms of the foregoing employment agreements, either party may generally terminate the employment relationship without cause at any time upon 14 days prior written notice to the other party or immediately with cause upon notice.

STOCK OPTION AND EMPLOYEE BENEFIT PLANS

1989 STOCK OPTION PLAN

In 1989, the Company established the 1989 Stock Option Plan. As of September 30, 1996, options to purchase an aggregate of 932,266 shares of Common Stock have been exercised at $0.15 per share. Options to purchase 13,127 shares of Common Stock at $0.15 per share were cancelled unexercised. No additional shares remain available for grant under the 1989 Stock Option Plan.

ANCILLARY PLAN

In 1991, the Company established an Ancillary Plan to grant options to individuals who were not eligible to receive options under the 1989 Stock Option Plan. Options to purchase an aggregate of 7,498 shares of the Company's Common Stock were granted under the Ancillary Plan, of which options to purchase 4,328 shares have been exercised at $0.15 per share and the remaining options to purchase 3,170 shares have been cancelled. No additional shares remain available for grant under the Ancillary Plan.

AMENDED AND RESTATED 1992 INCENTIVE AND NON-QUALIFIED STOCK OPTION PLAN

In 1992, the Company adopted the 1992 Incentive and Non-Qualified Stock Option Plan (the "1992 Plan"), providing for the grant of options to purchase 666,667 shares of Common Stock. The Company allocated an additional 100,000 shares of Common Stock during 1992, an additional 333,333 shares of Common Stock in 1994 and an additional 800,000 shares of Common Stock in 1996 to the 1992 Plan, resulting in a total share reserve of 1,900,000 shares. The 1992 Plan was amended and restated to its current form in 1996. Options under the 1992 Plan for a total of 462,840 shares have been exercised as of September 30, 1996. As of September 30, 1996, options to purchase 336,254 shares of Common Stock were outstanding with a weighted average exercise price of $1.27 per share.

The 1992 Plan provides for grants to employees and officers of "incentive stock options" within the meaning of Section 422 of the Internal Revenue Code of 1986, as amended, provided that such employee or officer is an employee on the date of grant. The 1992 Plan also provides for grants to employees, officers, consultants or service providers of nonqualified stock options. The 1992 Plan previously has been administered by the Board of Directors, but is currently administered by the Compensation Committee of the Board of Directors (the "Committee"). Each option granted pursuant to the 1992 Plan is authorized by the Committee and evidenced by a notice in such form as the Committee may from time to time determine.

The exercise price of each incentive stock option granted under the 1992 Plan must be at least equal to the fair market value of a share of Common Stock on the date of grant, except for incentive stock options granted to individuals who, at the time of grant, own stock possessing more than 10% of the total combined voting power of the Company, which options must have an exercise price of at least 110% of the fair market value of a share of Common Stock on the date of grant and must expire five years from the date of grant. The exercise price of each nonqualified stock option granted under the 1992 Plan must be at least 85% of the fair market value of the shares on the date of grant. No option shall be treated as an incentive stock option to the extent that such option would cause the aggregate fair market value (determined as of the date of grant of such option) of the shares with respect to which incentive stock options are exercisable by such optionee for the first time during any calendar year to exceed $100,000. The terms of all incentive stock options and nonqualified stock options granted under the 1992 Plan may not exceed ten years. The exercise price may be paid in cash or, at the Committee's discretion, by delivery of previously owned shares of the Company's Common Stock, by a combination of cash and shares, or any other form of legal consideration acceptable to the Committee. Options under the 1992 Plan generally may not be granted after April 2006.

The 1992 Plan provides that if the Company is a party to any merger in which the Company is not the surviving entity, any consolidation or dissolution (other than the merger or consolidation of the Company with one or more of its wholly-owned subsidiaries), the Company must cause any successor corporation to assume the options or substitute similar options for outstanding options or continue such options in effect. In the event that any successor to the Company in a merger, consolidation or dissolution will not assume the options or substitute similar options, then with respect to options held by optionees performing services for the Company, the time for exercising such options will be accelerated and such options will be terminated if not exercised prior to such merger, consolidation or dissolution.

1996 OUTSIDE DIRECTORS STOCK OPTION PLAN

A total of 150,000 shares of Common Stock have been reserved for issuance under the Company's 1996 Outside Directors Stock Option Plan (the "Directors Plan"). As of the date of this Prospectus, no options have been granted under the Directors Plan. The Directors Plan provides for the automatic granting of non-qualified stock options to directors of the Company who are not employees of the Company ("Outside Directors"). Under the Directors Plan, each Outside Director serving on the effective date of this Offering or elected after the date of this offering will automatically be granted an option to purchase 5,000 shares of Common Stock on the effective date of this offering or on the date of his or her election or appointment. In addition, each serving Outside Director will thereafter automatically be granted an option to purchase 5,000 shares of Common Stock following each annual meeting of shareholders after their election, provided that the Outside Director continues to serve in such capacity and that the Outside Director has served continuously as a director for at least six months. The exercise price of the options in all cases will be equal to the fair market value of the Common Stock on the date of grant. Options granted under the Directors Plan generally vest over a one-year period in equal monthly installments and must be exercised within ten years from the date of grant.

1996 EMPLOYEE STOCK PURCHASE PLAN

A total of 250,000 shares of the Company's Common Stock have been reserved for issuance under the Company's 1996 Employee Stock Purchase Plan (the "Purchase Plan"), none of which have been issued. The Purchase Plan permits eligible employees to purchase Common Stock at a discount through payroll deductions, during sequential 24-month offering periods. Each offering period is divided into four consecutive six-month purchase periods. Unless otherwise provided by the Board of Directors prior to the commencement of an offering period, the price at which stock is purchased under the Purchase Plan for such offering period is equal to 85% of the lesser of the fair market value of the Common Stock on the first day of such offering period or the last day of the purchase period of such offering period. The initial offering period will commence on the effective date of this offering.

SECTION 401(K) PLAN

Effective January 1, 1994, the Company adopted the Aastrom Biosciences, Inc. 401(k) Plan (the "Plan"). The Plan is intended to be a qualified retirement plan under the Internal Revenue Code. Employees of the Company are eligible to participate in the Plan upon the completion of three consecutive months of employment. Participants may make salary deferral contributions to the Plan of up to 15% of compensation, subject to the limitations imposed under the Internal Revenue Code. The Company may, but is not required to, make matching contributions to the Plan based on the participants' salary-defined contributions. Employer contributions are subject to a graduated vesting schedule based upon an employee's years of service with the Company. It is not anticipated that the Company will make any contributions to the Plan for the 1997 Plan Year. All contributions to the Plan are held in a trust which is intended to be exempt from income tax under Section 501(a) of the Internal Revenue Code. The Plan's trustees are R. Douglas Armstrong and Todd E. Simpson. Participants may direct the investment of their contributions among specified Merrill Lynch investment funds. The Plan may be amended or terminated by the Company at any time, subject to certain restrictions imposed by the Internal Revenue Code and the Employee Retirement Income Security Act of 1974.

COMPENSATION OF DIRECTORS

Directors of the Company do not receive cash for services provided as a director, however, directors who are not employees of the Company will receive annual grants of options to purchase Common Stock in accordance with the Directors Plan. No stock options or any other form of non-cash compensation were granted to directors of the Company during the Company's fiscal year ending June 30, 1996. See "Stock Option and Employee Benefit Plans--1996 Outside Directors Stock Option Plan."

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION IN COMPENSATION DECISIONS

During the fiscal year ended June 30, 1996, Robert J. Kunze, who served as President and Chief Executive Officer of the Company until 1991 and currently serves as its Chairman of the Board, R. Douglas Armstrong, President and Chief Executive Officer of the Company, and G. Bradford Jones were the members of the Compensation Committee of the Board of Directors. On April 30, 1996, a new Compensation Committee was appointed by the Board of Directors, and the members of such committee are Mr. Kunze and Albert B. Deisseroth, M.D., Ph.D.

CERTAIN TRANSACTIONS

In April 1995, the Company sold 775,001 shares of Series D Preferred Stock at a price per share of $4.00 to the following investors: (i) H&Q Life Science Technology Fund I purchased 167,001 shares for a purchase price of $668,004, (ii) H&Q London Ventures purchased 100,000 shares for a purchase price of $400,000, (iii) Brentwood Associates V, L.P. ("Brentwood") purchased 231,250 shares for a purchase price of $925,000, (iv) Windpoint Partners II, L.P. purchased 89,250 shares for a purchase price of $357,000, and (v) the State Treasurer of the State of Michigan ("Michigan") purchased 187,500 shares for a purchase price of $750,000. In May 1995, Cobe purchased 1,250,000 shares of Series D Preferred Stock for a purchase price of $5,000,000. Upon the closing of this offering, each outstanding share of Series D Preferred Stock will be converted into two-thirds of a share of Common Stock.

In April 1995, Dr. Armstrong and Dr. Emerson agreed to grant to Brentwood an option to purchase up to 28,000 shares and 14,667 shares of Common Stock, respectively, and, together with two other shareholders of the Company, an aggregate of up to 66,667 shares of Common Stock at a purchase price of $100,000. Brentwood exercised this option in April, 1996 purchasing an aggregate of 66,667 shares of Common Stock at a purchase price of $100,000 from such shareholders.

In September 1995, the Company and RPR entered into a collaborative relationship for use of the Aastrom CPS as a component of its lymphoid cell therapy program. On September 6, 1996, RPR notified the Company that it would not exercise its option to continue the collaboration. As a result, $3,500,000 of option payments previously paid to the Company by RPR were converted into 205,882 shares of the Company's Series E Preferred Stock.

In October 1995, the Company repurchased 62,500 shares of Series D Preferred Stock from Brentwood at the original purchase price of $250,000 and in December 1995 resold these shares to Northwest Ohio Venture Fund, a shareholder of the Company, for a total purchase price of $250,000.

In January 1996, the Company sold 1,411,765 shares of Series E Preferred Stock at a price per share of $4.25 to the following investors: (i) Michigan purchased 470,588 shares for a total purchase price of $1,999,999, and (ii) SBIC Partners, L.P. purchased 941,177 shares for a total purchase price of $4,000,002. Upon the closing of this offering, each outstanding share of Series E Preferred Stock will be converted into two-thirds of a share of Common Stock.

On November 18, 1993, in connection with the purchase of Common Stock upon exercise of stock options granted to R. Douglas Armstrong under the 1989 Stock Option Plan, the Company loaned to Dr. Armstrong $120,000 at an interest rate of 4% per annum pursuant to a full recourse promissory note. Interest on the note is payable on an annual basis and principal and accrued but unpaid interest is due on June 30, 1997. Dr. Armstrong is the President and Chief Executive Officer and is a director of the Company.

On October 20, 1993, in connection with the purchase of Common Stock upon exercise of stock options granted to Stephen G. Emerson under the 1989 Stock Option Plan, the Company loaned to Dr. Emerson $47,303 at an interest rate of 6% per annum pursuant to a full recourse promissory note. Interest on the note is payable on an annual basis and principal and accrued but unpaid interest is due June 30, 1997. The loan is secured by 258,687 shares of Common Stock held by Dr. Emerson. Dr. Emerson is a director of the Company.

In October 1993, the Company issued and sold 10,000 shares of Series C Preferred Stock to Cobe at a purchase price of $1,000 per share. Upon the closing of this offering, each outstanding share of Series C Preferred Stock will be converted into 166 and two-thirds shares of Common Stock.

In October 1996, the Company executed a financing commitment with Cobe to provide the Company with up to $5,000,000 (the "Equity Commitment") and up to $5,000,000 in funding from Michigan under a convertible loan commitment agreement ("Convertible Loan Commitment"). As of the date of this Prospectus, the Company has not obtained any financing under these commitments. Both the Equity Commitment and the Convertible Loan Commitment will terminate upon the consummation of this offering.

Under the terms of the Equity Commitment, the Company has an option to sell up to $5,000,000 of Series F Preferred Stock at a price of $6.00 per share to Cobe upon at least ninety days notice, which notice may be given at any time until September 1, 1997. Cobe's obligation to purchase such shares will terminate upon the closing of this offering. Although no shares of Series F Preferred Stock are outstanding as of the date of this Prospectus, any outstanding shares of Series F Preferred Stock would convert upon the closing of this offering into Common Stock based upon a conversion price of 80% of the price of two-thirds of a share of Common Stock sold in this offering. To the extent shares are sold to Cobe under the Equity Commitment, Cobe's preemptive right in the Company's next financing and the Company's Put Option to Cobe would be reduced.

On December 10, 1996, the Company issued to Cobe a notice to sell to Cobe 500,000 shares of Series F Preferred Stock for an aggregate purchase price of $3,000,000 under the Equity Commitment. Such sale is scheduled to close on March 19, 1997. In the event that this offering closes prior to March 19, 1997, Cobe's obligation to purchase Series F Preferred Stock under the Equity Commitment will terminate. In the event that this offering closes after March 19, 1997, Cobe's participation in this offering will be reduced by $3,000,000, the amount of its purchase of Series F Preferred Stock pursuant to the Equity Commitment.

Upon the sale of $5,000,000 of Series F Preferred Stock under the Equity Commitment, the Company becomes entitled to borrow funds from Michigan under the Convertible Loan Commitment. The Company may borrow such funds upon at least 45 days notice, which notice may be given during a period commencing on October 15, 1996 and ending on September 1, 1997. Upon the completion by the Company of a Qualifying Financing (as defined in the Convertible Loan Commitment), the Company has the option to repay outstanding principal and interest under the Convertible Loan Commitment in cash or to convert such borrowings into convertible Preferred Stock at a conversion price equivalent to 90% of the price per share in such financing. Under certain circumstances, the Convertible Loan Commitment converts or is convertible into Series G Preferred Stock. Interest accrues at an annual rate of 10% under the Convertible Loan Commitment, and the Company may repay such principal and interest at any time without penalty.

The Company has issued warrants to Michigan to purchase 69,444 shares of Common Stock as consideration for securing the Convertible Loan Commitment and has agreed to issue additional warrants to purchase 8,333 shares of Common Stock for each $1,000,000 borrowed under the Convertible Loan Commitment, as adjusted to the level of borrowing. The warrants become exercisable 90 days after the closing of this offering. The warrants expire on October 15, 2000 if not exercised, and may be exercised, in whole or in part, at a price equal to the lesser of (a) $9.00 per share, which price increases by $3.00 per share upon each anniversary of the closing of the offering made hereby; and (b) 85% of the fair market value of the Company's Common Stock at the time of exercise.

Pursuant to its letter dated November 11, 1996, Cobe has elected to purchase $5,000,000 of the Company's Common Stock in this offering at the initial public offering price per share in satisfaction of its preemptive rights under the Cobe Stock Agreement. In addition, the Company has elected not to exercise its put option rights under the Cobe Stock Agreement with respect to this offering. See "Description of Capital Stock--Rights of Cobe."

The Company has entered into employment agreements with certain of its executive officers. See "Management--Employment Agreements." The Company has also entered into an Indemnification Agreement with certain of its directors, officers and other key personnel. See "Management--Limitation of Liability and Indemnification Matters."

PRINCIPAL SHAREHOLDERS

The following table sets forth certain information regarding the beneficial ownership of the shares of the Company's Common Stock as of December 31, 1996, and as adjusted to give effect to the sale of 3,250,000 shares of Common Stock in this offering assuming (a) conversion of all of the Company's outstanding shares of Preferred Stock into Common Stock and (b) no exercise of the Underwriters' over-allotment option, and as adjusted to reflect the sale of shares offered in this offering, (i) by each person the Company knows to be the beneficial owner of 5% or more of the outstanding shares of Common Stock, (ii) each named executive officer listed in the Summary Compensation Table, (iii) each director of the Company, and (iv) all executive officers and directors of the Company as a group.

	SHARES BENEFICIALLY OWNED BEFORE THE OFFERING(1)		SHARES BENEFICIALLY OWNED AFTER THE OFFERING(1)	
BENEFICIAL OWNER	NUMBER	PERCENT	NUMBER	PERCENT
H&Q Life Science(2)..... Technology Fund I One Bush Street, 18th Floor San Francisco, CA 94104	1,061,334	10.6%	1,061,334	8.0%
H&Q London Ventures..... One Bush Street, 18th Floor San Francisco, CA 94104	816,666	8.2%	816,666	6.2%
State Treasurer of the State of Michigan,(3)..... Custodian of certain retirement systems c/o Venture Capital Division 430 West Allegan Lansing, MI 48992	1,338,724	13.4%	1,338,724	10.1%
SBIC Partners, L.P..... 201 Main Street, Suite 2302 Fort Worth, TX 76102	627,451	6.3%	627,451	4.7%
Brentwood Associates V, L.P.(4).. 11150 Santa Monica Blvd., Suite 1200 Los Angeles, CA 90025	745,831	7.5%	745,831	5.6%
Wind Point Partners II, L.P..... 676 N. Michigan Ave., Suite 3300 Chicago, IL 60611	559,500	5.6%	559,500	4.2%
Cobe Laboratories, Inc.(5)..... 1185 Oak Street Lakewood, CO 80215	2,499,999	25.0%	3,055,555	23.1%
R. Douglas Armstrong, Ph.D.(6)...	834,888	8.1%	834,888	6.1%
Albert B. Deisseroth, M.D., Ph.D.	25,000	*	25,000	*
Stephen G. Emerson, M.D., Ph.D. .	256,789	2.6%	256,789	1.9%
G. Bradford Jones(7).....	745,831	7.5%	745,831	5.6%
Robert J. Kunze(8).....	1,061,334	10.6%	1,061,334	8.0%
James Maluta(9).....	83,333	*	83,333	*
Thomas E. Muller, Ph.D.(10).....	20,000	*	20,000	*
Walter C. Ogier(11).....	24,583	*	24,583	*
Horst R. Witzel, Dr.-Ing.(12)....	9,077	*	9,077	*
Edward C. Wood, Jr.(13).....	2,499,999	25.0%	3,055,555	23.1%
All officers and directors as a group (12 persons)(14).....	5,583,334	53.6%	6,138,890	44.9%

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* Represents less than 1% of outstanding Common Stock or voting power.

(1) Shares beneficially owned and percentage of ownership are based on 9,994,899 shares of Common Stock outstanding before this offering and 13,244,899 shares of Common Stock outstanding after the closing of this offering. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or disposition power with respect to securities.

(2) Robert J. Kunze, Chairman of the Board of the Company, is a general partner of H&Q Life Science Venture Partners. See footnote 8, below.

(3) Does not include 69,444 shares issuable upon exercise of warrants held by Michigan that are exercisable 90 days after the closing of this offering.

(4) G. Bradford Jones, a director of the Company, is a general partner of Brentwood Associates V Ventures, L.P., which is the general partner of Brentwood Associates V, L.P. See footnote 7, below.

(5) The shares attributed to Cobe in the "Shares Beneficially Owned After the Offering" column include 555,556 shares of Common Stock which Cobe has agreed to purchase in this offering, assuming the closing of this offering at an initial public offering price of $9.00 per share. In addition, pursuant to the Cobe Stock Agreement, Cobe has an option to purchase from the Company an amount of Common Stock equal to 30% of the Company's fully diluted shares after the exercise of such option, at a purchase price equal to 120% of the public market trading price of the Company's Common Stock for a three-year period following the closing of this offering. Cobe also has a "right of first negotiation" in the event the Company receives any proposal concerning, or otherwise decides to pursue, a merger, consolidation or other transaction in which all or a majority of the Company's equity securities or all or substantially all of the Company's assets, or any material portion of the assets of the Company used by the Company in performing its obligations under the Distribution Agreement would be acquired by a third party outside of the ordinary course of business. Edward C. Wood, Jr., a director of the Company, is the President of Cobe BCT, Inc., an affiliate of Cobe. See footnote 13, below.

(6) Includes 333,333 shares issuable upon exercise of options held by Dr. Armstrong that are exercisable upon the effective date of this offering.

(7) Consists of 745,831 shares held by Brentwood Associates V, L.P. See footnote 4, above. Mr. Jones, as a general partner of Brentwood Associates V Ventures, L.P., which is the general partner of Brentwood Associates V, L.P., may be deemed to beneficially own such shares, but Mr. Jones disclaims beneficial ownership of all such shares except to the extent of his pecuniary interest therein.

(8) Consists of 1,061,334 shares held by H&Q Life Science Technology Fund I. See footnote 2, above. Mr. Kunze, as a general partner of H&Q Life Science Venture Partners, may be deemed to beneficially own such shares, but Mr. Kunze disclaims beneficial ownership of all such shares except to the extent of his pecuniary interest therein.

(9) Includes 16,668 shares issuable upon exercise of options held by Mr. Maluta that are exercisable within the 60-day period following December 31, 1996. Also includes 66,665 shares held of record by James Maluta and Deborah Vincent, as Trustees, with shared voting and investment power, of the James Maluta and Deborah Vincent Living Trust dated October 26, 1993.

(10) Consists of 20,000 shares issuable upon exercise of options held by Dr. Muller that are exercisable within the 60-day period following December 31, 1996.

(11) Includes 19,583 shares issuable upon exercise of options held by Mr. Ogier that are exercisable within the 60-day period following December 31, 1996.

(12) Includes 3,077 shares issuable upon exercise of options held by Dr. Witzel that are exercisable within the 60-day period following December 31, 1996.

(13) The shares attributed to Mr. Wood in the "Shares Beneficially Owned Before the Offering" column consist of 2,499,999 shares held by Cobe and the shares attributed to Mr. Wood in the "Shares Beneficially Owned After the Offering" column consist of such shares and an additional 555,556 shares which Cobe has agreed to purchase in this offering, assuming the closing of this offering at an initial public offering price of $9.00 per share. See footnote 5, above. Mr. Wood, as the President of Cobe BCT, Inc., an affiliate of Cobe, may be deemed to beneficially own such shares, but Mr. Wood disclaims beneficial ownership of all such shares.

(14) Includes 415,161 shares issuable upon exercise of options that are exercisable within the 60-day period following December 31, 1996.

DESCRIPTION OF CAPITAL STOCK

Upon the closing of this offering, the authorized capital stock of the Company will consist of 40,000,000 shares of Common Stock, no par value per share, and 5,000,000 shares of Preferred Stock, no par value per share.

COMMON STOCK

As of September 30, 1996, without giving effect to the conversion of each share of Preferred Stock into Common Stock upon the closing of this offering, there were 1,887,312 shares of Common Stock outstanding held of record by 32 shareholders.

The holders of Common Stock are entitled to one vote per share on all matters to be voted upon by the shareholders. Subject to preferences that may be applicable to outstanding shares of Preferred Stock, the holders of Common Stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by the Board of Directors out of funds legally available therefor. See "Dividend Policy." In the event of liquidation, dissolution or winding up of the Company, the holders of Common Stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior liquidation rights of holders of Preferred Stock then outstanding. The Common Stock has no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the Common Stock. All outstanding shares of Common Stock are fully paid and nonassessable. The rights, preferences and privileges of holders of Common Stock are set forth in the Company's Restated Articles of Incorporation, which Articles may be amended by the holders of at least two-thirds of the outstanding shares of Common Stock. The rights of the holders of Common Stock are also subject to, and may be adversely affected by, the rights of the holders of any shares of any Preferred Stock which the Company may designate and issue in the future.

PREFERRED STOCK

As of the closing of this offering, no shares of Preferred Stock will be outstanding. Thereafter, the Board of Directors will be authorized, without further shareholder approval, to issue up to 5,000,000 shares of Preferred Stock in one or more series and to fix the rights, preferences, privileges and restrictions granted or imposed upon any unissued shares of Preferred Stock and to fix the number of shares constituting any series and the designations of such series.

The issuance of Preferred Stock may have the effect of delaying or preventing a change in control of the Company. The issuance of Preferred Stock could decrease the amount of earnings and assets available for distribution to the holders of Common Stock or could adversely affect the rights and powers, including voting rights, of the holders of the Common Stock. In certain circumstances, such issuance could have the effect of decreasing the market price of the Common Stock. The Company currently has no plans to issue any shares of Preferred Stock.

MICHIGAN LAW AND CERTAIN CHARTER PROVISIONS

The Company is a Michigan corporation and is subject to certain anti-takeover provisions of the Michigan Business Corporation Act (the "MBCA") which could delay or make more difficult a merger or tender offer involving the Company. Chapter 7A of the MBCA prevents, in general, an "interested shareholder" (defined generally as a person owning 10% or more of a corporation's outstanding voting shares) from engaging in a "business combination" (as defined therein) with a Michigan corporation unless: (a) the Board of Directors issues an advisory statement, holders of 90% of the shares of each class of stock entitled to vote approve the transaction, and holders of two-thirds of the "disinterested" shares of each class of stock approve the transaction; or (b) the interested shareholder has been an interested shareholder for at least five years and has not acquired beneficial ownership of any additional shares of the corporation subsequent to the transaction which resulted in such shareholder being classified as an interested shareholder, and meets certain requirements, including, but not limited to, provisions relating to the fairness of the price and the form of consideration paid; or (c) the Board of Directors, by resolution, exempts a particular interested shareholder from these provisions prior to the interested

shareholder becoming an interested shareholder. The MBCA also contains certain other provisions which could have anti-takeover effects, including, but not limited to, Section 368, which pertains to "greenmail."

The Company's Bylaws provide that the Board of Directors is divided into three classes of directors, with each class serving a staggered three-year term. The classification system of electing directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of the Company and may maintain the incumbency of the Board of Directors, as it generally makes it more difficult for shareholders to replace a majority of the directors. The Company's Restated Articles of Incorporation eliminate the right of shareholders to act without a meeting and do not provide for cumulative voting in the election of directors. The amendment of any of these provisions would require approval by holders of at least two-thirds of the shares of outstanding Common Stock.

The foregoing and other statutory provisions and provisions of the Company's Restated Articles of Incorporation could have the effect of deterring certain takeovers or delaying or preventing certain changes in control or management of the Company, including transactions in which shareholders might otherwise receive a premium for their shares over then-current market prices.

REGISTRATION RIGHTS

Pursuant to the Amended and Restated Investors Rights Agreement, dated as of April 7, 1992, as amended (the "Investors Agreement"), certain holders of outstanding shares of Common Stock, including shares of Common Stock issuable upon conversion of the Preferred Stock (the "Registrable Securities"), are entitled to certain demand and incidental registration rights with respect to such shares, subject to certain customary limitations. Under the Investors Agreement, subject to certain exceptions, the holders of at least 50% of the Registrable Securities may require the Company to use its diligent best efforts to register Registrable Securities for public resale on one occasion (so long as such registration includes at least 20% of the Registrable Securities or a lesser percentage if the anticipated aggregate offering price net of underwriting discounts and commissions would exceed $2 million). In addition, whenever the Company proposes to register any of its securities under the Act, holders of Registrable Securities are entitled, subject to certain restrictions (including customary underwriters "cut back" limitations), to include their Registrable Securities in such registration. Subject to certain limitations, the holders of Registrable Securities may also require the Company to register such shares on Form S-3 no more than once every twelve months, provided that the anticipated aggregate proceeds would exceed $500,000. The Company is required to bear all registration and selling expenses (other than underwriter's discounts and commissions and more than a single special counsel to the selling shareholders) in connection with the registration of Registrable Securities in one demand registration and two piggy-back registrations. The participating investors are required to bear all expenses in connection with the registration of Registrable Securities on Form S-3.

Registration rights may be transferred to an assignee or transferee provided that such assignee or transferee acquires at least 66,667 shares of the Registrable Securities held by the transferring holder (13,333 shares in the case of a transfer from the holder of certain stock options). These registration rights may be amended or waived (either generally or in a particular instance) only with the written consent of the Company and the holders of a majority of the Registrable Securities then outstanding.

The registration rights granted under the Investors Agreement shall not be exercisable by a holder during the period in which the holder may sell all of the holder's shares under Rule 144 or Rule 144A during a single 90-day period.

Pursuant to the Stock Purchase Agreement dated October 22, 1993 by and between Cobe and the Company (the "Cobe Stock Agreement"), the Company granted to Cobe certain stock registration rights for any and all of the Company's Common Stock which Cobe acquires by conversion or otherwise. Cobe's stock registration rights commence 30 months following an initial public offering, or earlier in the event of any termination of the Distribution Agreement. Pursuant to Cobe's registration rights, Cobe is entitled to two demand registration rights, and an unlimited number of piggyback registration rights. Cobe's stock registration rights are subject to

customary underwriter's "cut back" requirements. The registration rights granted to Cobe shall not be exercisable during the period in which Cobe has the ability to sell all of its shares pursuant to Rule 144 during a single ninety-day period. Subject to certain conditions, these registration rights may be transferred with the transfer of stock to certain affiliates of the transferor or to a transferee who acquires the greater of 66,667 shares or 20% of the transferor's registrable stock.

RIGHTS OF COBE

Pursuant to the Cobe Stock Agreement, Cobe purchased an aggregate of $10,000,000 of shares of the Company's Series C Preferred Stock. Such shares of Series C Preferred Stock will automatically convert into 1,666,666 shares of Common Stock upon the closing of this offering.

Pursuant to the Cobe Stock Agreement, Cobe also has certain preemptive rights to purchase a portion of any new stock issued by the Company, subject to certain exceptions, so as to enable Cobe to maintain its relative percentage ownership and voting power interests in the Company. Pursuant to such preemptive rights, Cobe has elected to purchase $5,000,000 of Common Stock in this offering at the initial public offering price per share. Under the terms of the Cobe Stock Agreement, the Company also has the right to require Cobe to purchase stock issued by the Company in certain qualifying offerings, under certain circumstances (the "Put Option"). The Put Option may generally require Cobe to purchase up to 25% of the stock issued by the Company in a qualifying offering upon the same terms and conditions as the underwriters or other purchasers participating in the offering provided that Cobe shall not be required to purchase stock having an aggregate purchase price of more than $5,000,000. If the Company exercises the Put Option with respect to any such qualifying offering, Cobe has the option to purchase the greater of up to 40% of the number of shares to be offered in the qualifying offering or the number of shares necessary to maintain its percentage ownership interest in the Company. The Company has elected not to exercise the Put Option with respect to this offering.

Additionally, for a three-year period following the Company's completion of its initial public offering of stock, Cobe will have an option to purchase from the Company a quantity of new shares of the Company's Common Stock at a price equal to 120% of the public market trading price for the Company's Common Stock. The quantity of Common Stock to be purchased if Cobe exercises this option shall be equal to 30% of the Company's fully diluted shares after the exercise of this option.

In the Cobe Stock Agreement, the Company also granted to Cobe a "right of first negotiation" in the event the Company receives any proposal concerning, or otherwise decides to pursue, a merger, consolidation or other transaction in which all or a majority of the Company's equity securities or all or substantially all of the Company's assets, or any material portion of the assets of the Company used by the Company in performing its obligations under the Distribution Agreement would be acquired by a third party outside of the ordinary course of business.

Pursuant to the Stock Purchase Commitment Agreement with Cobe, dated October 29, 1996, the Company agreed to use reasonable and good faith efforts to cause a nominee of Cobe, who must be deemed by the Board of Directors to be qualified to be elected to the Board of Directors for as long as Cobe owns at least 15% of the outstanding Common Stock.

SHARES ELIGIBLE FOR FUTURE SALE

Upon completion of this offering, the Company will have 13,244,899 shares of Common Stock outstanding. Of these shares, the 3,250,000 shares of Common Stock sold in this offering will be freely transferable without restriction under the Securities Act unless they are held by the Company's affiliates as that term is used in Rule 144 under the Securities Act.

The remaining 9,994,899 shares of Common Stock outstanding are "restricted securities" as the term is defined by Rule 144 promulgated under the Securities Act (the "Restricted Shares"). Of the 9,994,899 Restricted Shares, 6,998,170 shares may be sold under Rule 144, subject in some cases to certain volume restrictions and other conditions imposed thereby. An additional 159,971 shares will become eligible for sale 90 days after completion of this offering pursuant to Rule 144 and 701. The remaining 2,836,758 shares will be eligible for sale upon the expiration of their respective holding periods as set forth in Rule 144. The Securities and Exchange Commission has proposed certain amendments to Rule 144 that would reduce by one year the holding periods required for shares subject to Rule 144 to become eligible for resale in the public market. This proposal, if adopted, would permit earlier resale of shares of Common Stock currently subject to holding periods under Rule 144. No assurance can be given concerning whether or when the proposal will be adopted by the Securities and Exchange Commission. Furthermore, 9,956,922 of the Restricted Shares are subject to lock-up agreements expiring 180 days following the date of this Prospectus. Such agreements provide that Cowen & Company may, in its sole discretion and at any time without notice, release all or a portion of the shares subject to these lock-up agreements. Upon the expiration of the lock-up agreements, 7,158,141 of the 9,994,899 Restricted Shares may be sold pursuant to Rule 144 or 701, subject in some cases to certain volume restrictions imposed thereby. Certain existing shareholders have rights to include shares of Common Stock owned by them in future registrations by the Company for the sale of Common Stock or to request that the Company register their shares under the Securities Act. See "Description of Capital Stock--Registration Rights." Following the date of this Prospectus, the Company intends to register on one or more registration statements on Form S-8 approximately 1,827,995 shares of Common Stock issuable under its stock option and stock purchase plan. Of the 1,827,995 shares issuable under the Company's stock option and stock purchase plans, 336,254 shares are subject to outstanding options as of September 30, 1996, all of which shares are subject to lock-up agreements. Shares covered by such registration statements will immediately be eligible for sale in the public market upon the filing of such registration statements. The Company also has issued warrants to purchase 69,444 shares of Common Stock which become exercisable 90 days after the closing of this offering and, upon the effective date of this offering, will grant an immediately exercisable option to purchase 333,333 shares of Common Stock. The shares issuable upon exercise of such warrants and the shares issuable upon exercise of such option will be subject to lock-up agreements. In addition, Cobe has agreed to purchase $5,000,000 of Common Stock in this offering at the initial public offering price per share, all of which shares will be subject to a lock-up agreement.

In general, under Rule 144, a person (or persons whose shares are aggregated), shareholders, including an affiliate, who has beneficially owned shares for at least two years is entitled to sell in broker transactions, within any three-month period, commencing 90 days after this offering, a number of shares that does not exceed the greater of (i) 1% of the then outstanding Common Stock (approximately 132,449 shares immediately after this offering assuming no exercise of the Underwriters' over-allotment option) or (ii) the average weekly trading volume in the Common Stock during the four calendar weeks preceding the sale, subject to the filing of a Form 144 with respect to the sale and other limitations. In general, shares issued in compliance with Rule 701 may be sold by non-affiliates subject to the manner of sale requirements of Rule 144, but without compliance with the other requirements of Rule 144. Affiliates may sell shares they acquired under Rule 701 in compliance with the provisions of Rule 144, except that there is no required holding period. A person who is not an affiliate, has not been an affiliate within three months prior to sale and has beneficially owned the Restricted Shares for at least three years, is entitled to sell such shares under Rule 144 without regard to any of the limitations described above.

The Company has also agreed not to offer, sell, contract to sell or otherwise dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock or any rights to acquire Common Stock for a period of 180 days after the date of this Prospectus, without the prior written consent of the Underwriters, subject to certain limited exceptions (including exercises of stock options).

Prior to this offering, there has been no public market for the Common Stock of the Company. No prediction can be made regarding the effect, if any, that the sale or availability for sale of shares of additional Common Stock will have on the market price of the Common Stock. Nevertheless, sales of substantial numbers of shares by existing shareholders or by shareholders purchasing in this offering could have a negative effect on the market price of the Common Stock.

UNDERWRITING

Subject to the terms and conditions of the Underwriting Agreement, the Underwriters named below (the "Underwriters"), through their Representatives, Cowen & Company and J.P. Morgan Securities Inc., have severally agreed to purchase from the Company the following respective number of shares of Common Stock at the initial public offering price less the underwriting discounts and commissions set forth on the cover page of this Prospectus:

UNDERWRITER	NUMBER OF SHARES OF COMMON STOCK
Cowen & Company	
J.P. Morgan Securities Inc.	
Total	3,250,000

The Underwriting Agreement provides that the obligations of the Underwriters are subject to certain conditions precedent and that the Underwriters will purchase all of the Common Stock offered hereby if any of such shares are purchased.

The Company has been advised by the Representatives of the Underwriters that the Underwriters propose to offer the shares of Common Stock to the public at the initial public offering price set forth on the cover page of this Prospectus and to certain dealers at such price less a concession not in excess of $ per share. The Underwriters may allow, and such dealers may reallot, a concession not in excess of $ per share to certain other dealers. After the initial public offering, the offering price and other selling terms may be changed by the Representatives of the Underwriters.

The Company has granted to the Underwriters an option, exercisable not later than 30 days after the date of this Prospectus, to purchase up to 487,500 additional shares of Common Stock at the initial public offering price less the underwriting discounts and commissions set forth on the cover page of this Prospectus. To the extent that the Underwriters exercise such option, each of the Underwriters will have a firm commitment to purchase approximately the same percentage thereof that the number of shares of Common Stock to be purchased by it shown in the above table bears to 3,250,000, and the Company will be obligated, pursuant to the option, to sell such shares to the Underwriters. The Underwriters may exercise such option only to cover over-allotments made in connection with the sale of the Common Stock offered hereby. If purchased, the Underwriters will offer such additional shares on the same terms as those on which the 3,250,000 shares are being offered.

As part of this offering, Cobe has agreed with the Company to purchase from the Underwriters $5,000,000 of Common Stock at the initial public offering price per share.

The Company has agreed to indemnify the several Underwriters against certain liabilities, including liabilities under the Securities Act.

The Company and its directors and officers, and certain of its other shareholders and optionholders, have entered into agreements providing that, for a period of 180 days after the date of this Prospectus, they will not, without the prior written consent of Cowen & Company, offer, sell, contract to sell or otherwise dispose of any shares of Common Stock or any securities convertible into, or exchangeable for, or warrants to purchase, any shares of Common Stock, or grant any option to purchase or right to acquire or acquire any option to dispose of any shares of Common Stock, except in certain limited circumstances. See "Shares Eligible for Future Sale."

The Representatives of the Underwriters have advised the Company that the Underwriters do not intend to confirm sales to any account over which they exercise discretionary authority.

Prior to this offering, there has been no public market for the Common Stock of the Company. Consequently, the initial public offering price for the Common Stock has been determined by negotiations between the Company and the Representatives of the Underwriters. Among the factors considered in such negotiations were prevailing market conditions, the results of operations of the Company in recent periods, the market capitalizations and stages of development of other companies that the Company and the Representatives of the Underwriters believe to be comparable to the Company, estimates of the business potential of the Company, the present state of the Company's development, and other factors deemed relevant.

TRANSFER AGENT AND REGISTRAR

The Transfer Agent and Registrar for the Common Stock is Continental Stock Transfer & Trust Company. Its telephone number in New York, New York is (212) 509-4000.

LEGAL MATTERS

The validity of the Common Stock offered hereby will be passed upon for the Company by Pepper, Hamilton & Scheetz, Detroit, Michigan. Michael B. Staebler, a partner at Pepper, Hamilton & Scheetz, is the beneficial owner of 3,333 shares of Common Stock. Gray Cary Ware & Freidenrich, A Professional Corporation, San Diego, California, has acted as special counsel to the Company in connection with the offering. Certain legal matters in connection with this offering will be passed upon for the Underwriters by Brobeck, Phleger & Harrison LLP, New York, New York.

EXPERTS

The balance sheets of the Company as of June 30, 1995 and 1996, and the statements of operations, shareholders' equity, and cash flows for the years ended June 30, 1994, 1995 and 1996 and the cumulative period from March 24, 1989 (Inception) to June 30, 1996 included in this Prospectus, have been included herein in reliance on the report of Coopers & Lybrand L.L.P., independent accountants, given upon the authority of that firm as experts in accounting and auditing.

The statements in this Prospectus concerning the patents and patent applications either owned or licensed by the Company under the captions "Risk Factors--Uncertainty Regarding Patents and Proprietary Rights" and "Business--Patents and Proprietary Rights" and the other references herein concerning the patents and patent applications either owned or licensed by the Company have been reviewed and approved by Oblon, Spivak, McClelland, Maier & Neustadt, P.C., Arlington, Virginia, patent counsel to the Company, as experts on such matters, and are included herein in reliance upon that review and approval.

ADDITIONAL INFORMATION

The Company has filed with the Securities and Exchange Commission, Washington, D.C. 20549, a Registration Statement on Form S-1 under the Securities Act of 1933, as amended, with respect to the Common Stock offered hereby. This Prospectus does not contain all of the information set forth in the Registration Statement and the exhibits and schedules thereto. For further information with respect to the Company and the Common Stock, reference is made to the Registration Statement and the exhibits and schedules filed as a part thereof. Statements contained in this Prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and, in each instance, if such contract or document is filed as an exhibit, reference is made to the copy of such contract or document filed as an exhibit to the Registration Statement, each such statement being qualified in all respects by such reference to such exhibit. The Registration Statement, including exhibits and schedules thereto, may be inspected without charge at the Commission's principal office in Washington, D.C., and copies of all or any part thereof may be obtained from such office after payment of fees prescribed by the Commission.

The Company intends to furnish to its shareholders annual reports containing financial statements audited by its independent certified public accountants and make available to its shareholders quarterly reports containing unaudited financial data for the first three quarters of each fiscal year.

AASTROM BIOSCIENCES, INC.
(A DEVELOPMENT STAGE COMPANY)

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors of
Aastrom Biosciences, Inc.:

We have audited the accompanying balance sheets of Aastrom Biosciences, Inc. (a Michigan corporation in the development stage) as of June 30, 1995 and 1996, and the related statements of operations, stockholders' equity, and cash flows for the years ended June 30, 1994, 1995 and 1996, and the cumulative period from March 24, 1989 (inception) to June 30, 1996. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Aastrom Biosciences, Inc. as of June 30, 1995 and 1996, and the results of its operations and its cash flows for the years ended June 30, 1994, 1995 and 1996, and the cumulative period from March 24, 1989 (inception) to June 30, 1996, in conformity with generally accepted accounting principles.

Detroit, Michigan
August 9, 1996

AASTROM BIOSCIENCES, INC.
(A DEVELOPMENT STAGE COMPANY)

BALANCE SHEETS

	JUNE 30,		SEPTEMBER 30,	PRO FORMA SHAREHOLDERS' EQUITY AT SEPTEMBER 30,
	1995	1996	1996	1996
			(UNAUDITED)	(UNAUDITED)
ASSETS				
CURRENT ASSETS:				
Cash and cash equivalents	$ 2,680,000	$10,967,000	$ 5,908,000	
Short-term investments	8,388,000	--	1,200,000	
Receivables	99,000	81,000	220,000	
Prepaid expenses	105,000	437,000	378,000	
Total current assets	11,272,000	11,485,000	7,706,000	
PROPERTY, NET	1,279,000	1,188,000	1,225,000	
Total assets	$ 12,551,000	$12,673,000	$ 8,931,000	
LIABILITIES AND SHAREHOLDER'S EQUITY				
CURRENT LIABILITIES:				
Accounts payable and accrued expenses	$ 328,000	$ 1,192,000	$ 841,000	
Accrued employee expenses	130,000	97,000	80,000	
Current portion of capital lease obligations	270,000	223,000	192,000	
Deferred revenue	225,000	122,000	53,000	
Total current liabilities	953,000	1,634,000	1,166,000	
CAPITAL LEASE OBLIGATIONS	412,000	189,000	147,000	
COMMITMENTS (Note 7)				
SHAREHOLDERS' EQUITY:				
Preferred Stock, no par value, shares authorized--8,540,000, 9,951,765 and 10,157,647, respectively, issued and outstanding--8,040,001, 9,451,766 and 9,657,648, respectively (none--pro forma), (liquidation preference of $34,560,000 and $35,375,000 at June 30, 1996 and September 30, 1996, respectively)	28,253,000	34,218,000	37,718,000	$ --
Common Stock, no par value, shares authorized--17,000,000, 18,500,000 and 18,500,000, respectively, issued and outstanding--1,731,463, 1,886,479 and 1,887,312, respectively (9,985,734--pro forma)	241,000	324,000	365,000	38,083,000
Deficit accumulated during the development stage	(17,108,000)	(27,025,000)	(30,298,000)	(30,298,000)
Shareholder notes receivable	(198,000)	(167,000)	(167,000)	(167,000)
Stock purchase rights	--	3,500,000	--	--
Unrealized losses on investments	(2,000)	--	--	--
Total shareholders' equity	11,186,000	10,850,000	7,618,000	$ 7,618,000
Total liabilities and shareholders' equity	$ 12,551,000	$12,673,000	$ 8,931,000	

The accompanying notes are an integral part of these financial statements.

AASTROM BIOSCIENCES, INC.
(A DEVELOPMENT STAGE COMPANY)

STATEMENTS OF OPERATIONS

	YEAR ENDED JUNE 30,			MARCH 24, 1989 (INCEPTION) TO JUNE 30,	THREE MONTHS ENDED SEPTEMBER 30,		MARCH 24, 1989 (INCEPTION) TO SEPTEMBER 30,
	1994	1995	1996	1996	1995	1996	1996
					(UNAUDITED)		(UNAUDITED)
REVENUES:							
Research and development agreements	$ 49,000	$ 396,000	$ 1,342,000	$ 1,787,000	$ 172,000	$ 195,000	$ 1,982,000
Grants	823,000	121,000	267,000	1,995,000	39,000	29,000	2,024,000
Total revenues	872,000	517,000	1,609,000	3,782,000	211,000	224,000	4,006,000
COSTS AND EXPENSES:							
Research and development	5,627,000	4,889,000	10,075,000	25,075,000	1,195,000	3,160,000	28,235,000
General and administrative	1,565,000	1,558,000	2,067,000	7,089,000	446,000	452,000	7,541,000
Total costs and expenses	7,192,000	6,447,000	12,142,000	32,164,000	1,641,000	3,612,000	35,776,000
LOSS BEFORE OTHER INCOME AND EXPENSE	(6,320,000)	(5,930,000)	(10,533,000)	(28,382,000)	(1,430,000)	(3,388,000)	(31,770,000)
OTHER INCOME (EXPENSE):							
Interest income	245,000	279,000	678,000	1,576,000	149,000	126,000	1,702,000
Interest expense	(65,000)	(66,000)	(62,000)	(219,000)	(18,000)	(11,000)	(230,000)
Other income	180,000	213,000	616,000	1,357,000	131,000	115,000	1,472,000
NET LOSS	$(6,140,000)	$(5,717,000)	$ (9,917,000)	$(27,025,000)	$(1,299,000)	$(3,273,000)	$(30,298,000)
PRO FORMA NET LOSS PER SHARE			$ (.98)			$ (.32)	
Pro forma weighted average number of common and common equivalent shares outstanding			10,103,000			10,107,000	

The accompanying notes are an integral part of these financial statements.

AASTROM BIOSCIENCES, INC.
(A DEVELOPMENT STAGE COMPANY)

STATEMENTS OF SHAREHOLDERS' EQUITY

	PREFERRED STOCK		COMMON STOCK		DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	SHAREHOLDER NOTES RECEIVABLE	STOCK PURCHASE RIGHTS	UNREALIZED GAINS (LOSSES) ON INVESTMENTS
	SHARES	AMOUNT	SHARES	AMOUNT				
Balance, March 24, 1989 (Inception)....	--	$ --	--	$ --	$ --	$ --	$ --	$ --
Non-cash issuance of Common Stock...			454,545	--				
Issuance of Series A Preferred Stock at $1.00 per share in August 1989.....	1,500,000	1,500,000						
Net loss.....					(500,000)			
Balance, June 30, 1990.....	1,500,000	1,500,000	454,545	--	(500,000)	--	--	--
Issuance of Series A Preferred Stock in March 1991 at $1.00 per share, net of issuance costs of $5,000.....	1,000,000	995,000						
Net loss.....					(636,000)			
Balance, June 30, 1991.....	2,500,000	2,495,000	454,545	--	(1,136,000)	--	--	--
Issuance of Series B Preferred Stock in April 1992 at $2.00 per share, net of issuance costs of $46,000.....	3,030,000	6,014,000						
Net loss.....					(1,268,000)			
Balance, June 30, 1992.....	5,530,000	8,509,000	454,545	--	(2,404,000)	--	--	--
Issuance of Common Stock for services...			33,333	10,000				
Exercise of stock option...			6,873	1,000				
Net loss.....					(2,847,000)			
Balance, June 30, 1993.....	5,530,000	8,509,000	494,751	11,000	(5,251,000)	--	--	--
Issuance of Series C Preferred Stock in October 1993 at $1,000 per share, net of issuance costs of $175,000....	10,000	9,825,000						
Exercise of stock options..			1,222,609	229,000		(198,000)		
Net loss.....					(6,140,000)			
Balance, June 30, 1994.....	5,540,000	18,334,000	1,717,360	240,000	(11,391,000)	(198,000)	--	--
Issuance of Series D Preferred Stock in April and May 1995 at $4.00 per share, net of issuance costs of $81,000.....	2,500,001	9,919,000						

Exercise of stock options..			39,103	8,000				
Retirement of Common Stock outstanding....			(25,000)	(7,000)				
Unrealized loss on investments.								(2,000)
Net loss.....					(5,717,000)			
Balance, June 30, 1995.....	8,040,001	28,253,000	1,731,463	241,000	(17,108,000)	(198,000)	--	(2,000)
Issuance of Series E Preferred Stock in January 1996 at $4.25 per share, net of issuance costs of $35,000.....	1,411,765	5,965,000						
Exercise of stock options..			130,016	53,000				
Issuance of Common Stock at $1.20 per share.....			25,000	30,000				
Issuance of Stock Purchase Rights for cash in September 1995 and March 1996.....							3,500,000	
Repurchase of Series D Preferred Stock at $4.00 per share.....	(62,500)	(250,000)						
Sale of Series D Preferred Stock at $4.00 per share.....	62,500	250,000						
Principal payment received under shareholder note receivable.....						31,000		
Unrealized gain on investments.								2,000
Net loss.....					(9,917,000)			
Balance, June 30, 1996.....	9,451,766	34,218,000	1,886,479	324,000	(27,025,000)	(167,000)	3,500,000	--
Unaudited:								
Exercise of stock options..			833	1,000				
Issuance of Series E Preferred Stock to RPR at $17.00 per share.....	205,882	3,500,000					(3,500,000)	
Compensation expense related to stock options granted.....				40,000				
Net loss.....					(3,273,000)			
Balance, September 30, 1996 (Unaudited)....	9,657,648	$37,718,000	1,887,312	$365,000	$(30,298,000)	$(167,000)	$ --	$ --

	TOTAL SHAREHOLDERS' EQUITY
Balance, March 24, 1989 (Inception)....	$ --
Non-cash issuance of Common Stock...	--
Issuance of Series A Preferred Stock	

at $1.00 per share in August 1989.....	1,500,000
Net loss.....	(500,000)
Balance, June 30, 1990.....	1,000,000
Issuance of Series A Preferred Stock in March 1991 at $1.00 per share, net of issuance costs of $5,000.....	995,000
Net loss.....	(636,000)
Balance, June 30, 1991.....	1,359,000
Issuance of Series B Preferred Stock in April 1992 at $2.00 per share, net of issuance costs of $46,000.....	6,014,000
Net loss.....	(1,268,000)
Balance, June 30, 1992.....	6,105,000
Issuance of Common Stock for services...	10,000
Exercise of stock option...	1,000
Net loss.....	(2,847,000)
Balance, June 30, 1993.....	3,269,000
Issuance of Series C Preferred Stock in October 1993 at $1,000 per share, net of issuance costs of $175,000....	9,825,000
Exercise of stock options..	31,000
Net loss.....	(6,140,000)
Balance, June 30, 1994.....	6,985,000
Issuance of Series D Preferred Stock in April and May 1995 at $4.00 per share, net of issuance costs of $81,000.....	9,919,000
Exercise of stock options..	8,000
Retirement of Common Stock outstanding....	(7,000)
Unrealized loss on investments.	(2,000)
Net loss.....	(5,717,000)
Balance, June 30, 1995.....	11,186,000
Issuance of Series E Preferred Stock in January 1996 at $4.25 per share, net of issuance costs of $35,000.....	5,965,000
Exercise of stock options..	53,000
Issuance of Common Stock at $1.20 per share.....	30,000

Issuance of Stock Purchase Rights for cash in September 1995 and March 1996.....	3,500,000
Repurchase of Series D Preferred Stock at $4.00 per share.....	(250,000)
Sale of Series D Preferred Stock at $4.00 per share.....	250,000
Principal payment received under shareholder note receivable.....	31,000
Unrealized gain on investments.	2,000
Net loss.....	(9,917,000)
Balance, June 30, 1996.....	10,850,000
Unaudited:	
Exercise of stock options..	1,000
Issuance of Series E Preferred Stock to RPR at $17.00 per share.....	--
Compensation expense related to stock options granted.....	40,000
Net loss.....	(3,273,000)
Balance, September 30, 1996 (Unaudited)....	$7,618,000

The accompanying notes are an integral part of these financial statements.

AASTROM BIOSCIENCES, INC.

(A DEVELOPMENT STAGE COMPANY)

STATEMENTS OF CASH FLOWS

	YEAR ENDED JUNE 30,			MARCH 24, 1989 (INCEPTION) TO JUNE 30,	THREE MONTHS ENDED SEPTEMBER 30,		MARCH 24, 1989 (INCEPTION) TO SEPTEMBER 30,
	1994	1995	1996	1996	1995	1996	1996
					(UNAUDITED)		(UNAUDITED)
OPERATING ACTIVITIES:							
Net loss	$(6,140,000)	$(5,717,000)	$(9,917,000)	$(27,025,000)	$(1,299,000)	$(3,273,000)	$(30,298,000)
Adjustments to reconcile net loss to net cash used for operating activities:							
Depreciation and amortization	248,000	329,000	536,000	1,267,000	91,000	136,000	1,403,000
Loss on property held for resale	--	--	--	110,000	--	--	110,000
Amortization of discounts and premiums on investments	--	(9,000)	(110,000)	(119,000)	(48,000)	--	(119,000)
Expense related to stock and stock options granted	--	--	--	10,000	--	40,000	50,000
Changes in assets and liabilities:							
Receivables	11,000	132,000	18,000	(81,000)	4,000	(139,000)	(220,000)
Prepaid expenses	(17,000)	(59,000)	(332,000)	(437,000)	27,000	59,000	(378,000)
Accounts payable and accrued expenses	(45,000)	(40,000)	864,000	1,192,000	(35,000)	(351,000)	841,000
Accrued employee expenses	53,000	28,000	(33,000)	97,000	(58,000)	(17,000)	80,000
Deferred revenue	146,000	79,000	(103,000)	122,000	(172,000)	(69,000)	53,000
Net cash used for operating activities	(5,744,000)	(5,257,000)	(9,077,000)	(24,864,000)	(1,490,000)	(3,614,000)	(28,478,000)
INVESTING ACTIVITIES:							
Organizational costs	--	--	--	(73,000)	--	--	(73,000)
Purchase of short-term investments	(967,000)	(10,981,000)	--	(11,948,000)	--	(1,200,000)	(13,148,000)
Maturities of short-term investments	--	3,567,000	8,500,000	12,067,000	2,500,000	--	12,067,000
Capital purchases	(320,000)	(118,000)	(445,000)	(1,718,000)	(15,000)	(173,000)	(1,891,000)
Proceeds from sale of property held for resale	--	--	--	400,000	--	--	400,000
Net cash provided by (used for) investing activities	(1,287,000)	(7,532,000)	8,055,000	(1,272,000)	2,485,000	(1,373,000)	(2,645,000)
FINANCING ACTIVITIES:							
Issuance of Preferred Stock	9,825,000	9,919,000	5,965,000	34,218,000	--	--	34,218,000
Issuance of Common Stock	31,000	1,000	83,000	116,000	3,000	1,000	117,000
Payments received for stock purchase rights	--	--	3,500,000	3,500,000	1,500,000	--	3,500,000
Payments received under shareholder notes	--	--	31,000	31,000	--	--	31,000
Principal payments under capital lease obligations	(147,000)	(214,000)	(270,000)	(762,000)	(65,000)	(73,000)	(835,000)
Net cash provided by (used for) financing activities	9,709,000	9,706,000	9,309,000	37,103,000	1,438,000	(72,000)	37,031,000
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	2,678,000	(3,083,000)	8,287,000	10,967,000	2,433,000	(5,059,000)	5,908,000
CASH AND CASH EQUIVALENTS AT BEGINNING OF PERIOD	3,085,000	5,763,000	2,680,000	--	2,680,000	10,967,000	--
CASH AND CASH							

EQUIVALENTS AT END OF PERIOD.....	$ 5,763,000	$ 2,680,000	$10,967,000	$ 10,967,000	$ 5,113,000	$ 5,908,000	$ 5,908,000
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:							
Interest paid.....	$ 65,000	$ 66,000	$ 62,000	$ 219,000	$ 18,000	$ 11,000	$ 230,000
SUPPLEMENTAL DISCLOSURES OF NON-CASH INVESTING AND FINANCING ACTIVITIES:							
Additions to capital lease obligations.....	$ 348,000	$ 270,000	$ --	$ 1,174,000	$ --	$ --	$ 1,174,000

The accompanying notes are an integral part of these financial statements.

AASTROM BIOSCIENCES, INC.
(A DEVELOPMENT STAGE COMPANY)

NOTES TO FINANCIAL STATEMENTS

(INFORMATION AS OF SEPTEMBER 30, 1996 AND FOR THE THREE-MONTH PERIODS ENDED SEPTEMBER 30, 1995 AND 1996 IS UNAUDITED)

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Overview--Aastrom Biosciences, Inc. (the "Company") was incorporated in March 1989 ("Inception") under the name Ann Arbor Stromal, Inc. The Company changed its name in 1991 concurrent with the commencement of employee-based operations. The Company is in the development stage with its principal business activities being research and product development, conducted both on its own behalf and in connection with various collaborative research and development agreements with other companies, involving the development of processes and instrumentation for the ex-vivo production of human stem cells and their progeny, and hematopoetic and other tissues. Successful future operations are subject to several technical and business risks, including satisfactory product development and obtaining regulatory approval and market acceptance for its products.

Significant Revenue Relationships--Two companies accounted for 49% and 28% of total revenues for the year ended June 30, 1995 and one company accounted for 83% of total revenues for the year ended June 30, 1996. One of these companies accounted for 42% of total revenues for the period from Inception to June 30, 1996. One company accounted for 82% and 87% of total revenues for the three months ended September 30, 1995 and 1996, respectively, and accounted for 45% of total revenues for the period from Inception to September 30, 1996. Grant revenues consist of grants sponsored by the U.S. government.

Cash and Cash Equivalents--Cash and cash equivalents include cash and short-term investments with original maturities of three months or less.

Short-Term Investments--Short-term investments consist of U.S. government securities and commercial paper with original maturities of over three months but less than one year. Short-term investments are classified as available-for-sale, and are carried at market value, in accordance with Financial Accounting Standards Board Statement No. 115, "Accounting for Certain Investments in Debt and Equity Securities," which was adopted July 1, 1994. Application of this pronouncement results in the inclusion of unrealized gains and losses on investments in shareholders' equity. Application of this accounting treatment in prior periods would not have materially changed the amounts as presented.

Diversity of Credit Risk--The Company invests its excess cash in U.S. government securities and commercial paper, maintained in U.S. financial institutions, and has established guidelines relative to diversification and maturities in an effort to maintain safety and liquidity. The Company plans to continue to invest its excess funds in short-term, investment grade, interest-bearing instruments. These guidelines are periodically reviewed and modified to take advantage of trends in yields and interest rates. The Company has not experienced any significant losses on its cash equivalents or short-term investments.

Property--Property is recorded at cost and depreciated or amortized using the straight-line method over the estimated useful life of the asset (primarily five years) or the remaining lease term, if shorter, with respect to leasehold improvements and certain capital lease assets.

Revenue Recognition--Revenue from grants and research agreements is recognized on a cost reimbursement basis consistent with the performance requirements of the related agreement. Funding received in advance of costs incurred is presented as deferred revenue in the accompanying financial statements.

Research and Development Costs--Research and development costs are expensed as incurred. Such costs and expenses related to programs under collaborative agreements with other companies totaled $49,000, $146,000 and $1,294,000 for the years ended June 30, 1994, 1995 and 1996, respectively, and $1,489,000 for the period from Inception to June 30, 1996 and $158,000, $117,000 and $1,606,000 for the three months ended September 30, 1995 and 1996 and for the period from Inception to September 30, 1996, respectively.

Restatement of Common Stock Information--The Company's Board of Directors authorized a two-for-three reverse stock split of the Company's Common Stock ("Reverse Stock Split") to be effected prior to the closing of the proposed IPO. Accordingly, all references in the accompanying financial statements to common share or per common share information have been restated to reflect the Reverse Stock Split.

Pro Forma Information (Unaudited)--Pro forma net loss per share is computed using the weighted average number of common and common equivalent shares outstanding during the period. Common equivalent shares are not included in the per-share calculation where the effect of their inclusion would be anti-dilutive, except that common and common equivalent shares issued during the 12 month period preceding the filing of the registration statement for the proposed initial public offering ("IPO"), contemplated in the Prospectus in which these financial statements are included, at a price below $8.00 per share (the lowest expected selling price in the proposed IPO) are considered to be cheap stock and have been included in the calculation as if they were outstanding for all periods using the treasury stock method, if applicable, even though their inclusion is anti-dilutive. Upon the completion of the Company's proposed IPO, all 9,657,648 shares of the Company's outstanding Preferred Stock will automatically convert into 8,098,422 shares of Common Stock. As a result, all outstanding shares of Preferred Stock are assumed to have been converted to Common Stock at the time of issuance, except for those shares considered to be cheap stock which are treated as outstanding for all periods presented. The pro forma effect of these conversions has been reflected in the accompanying balance sheet assuming the conversion had occurred on September 30, 1996.

Historical net loss per share information is not considered meaningful due to the significant changes in the Company's capital structure which will occur upon the closing of the proposed IPO; accordingly, such per-share data information is not presented.

Use of Estimates--The preparation of financial statements in accordance with generally accepted accounting principles requires management to make estimates that affect the amounts reported in the financial statements and disclosures made in the accompanying notes to financial statements. Actual results could differ from those estimates.

Financial Instruments--Management evaluates the fair value of those assets and liabilities identified as financial instruments under Statement of Financial Accounting Standards No. 107 and estimates that the fair value of such financial instruments generally approximates the carrying value in the accompanying financial statements. Fair values have been determined through information obtained from market sources and management estimates.

Recent Pronouncements--During October 1995, the Financial Accounting Standards Board issued Statement No. 123, "Accounting for Stock-Based Compensation," which establishes a fair value based method of accounting for stock-based compensation and incentive plans and requires additional disclosures for those companies that elect not to adopt the new method of accounting. Adoption of this pronouncement is required for the Company's fiscal year beginning July 1, 1996 and the Company intends to provide the additional disclosures required by the pronouncement in its financial statements for the year ended June 30, 1997.

During March 1995, the Financial Accounting Standards Board issued Statement No. 121 (SFAS 121), "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of," which requires the Company to review for impairment of long-lived assets, certain identifiable intangibles, and goodwill related to those assets whenever events or changes in circumstances indicate that the carrying amount of an asset

might not be recoverable. In certain situations, an impairment loss would be recognized. SFAS 121 will become effective for the Company's fiscal year beginning July 1, 1996. Management has studied the effect of implementing SFAS 121 and, based upon its evaluation, has determined that the impact on the Company's financial condition and results of operations is not significant for the period ended September 30, 1996.

Unaudited Financial Information--The financial information as of September 30, 1996, and for the three-month periods ended September 30, 1995 and 1996, and for the period from Inception to September 30, 1996, is unaudited. In the opinion of management, such information contains all adjustments, consisting only of normal recurring accruals, necessary for a fair statement of the results of operations for the interim periods. The results of operations for the three months ended September 30, 1996, are not necessarily indicative of the results to be expected for the full year or for any other period.

2. SHORT-TERM INVESTMENTS

All short-term investments are available-for-sale, and have maturities of one year or less and are summarized as follows:

	COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES	ESTIMATED FAIR VALUE
June 30, 1995:				
U.S. Government Securities	$4,890,000	$ --	$ (2,000)	$4,888,000
Commercial Paper	3,500,000	--	--	3,500,000
	$8,390,000	$ --	$ (2,000)	$8,388,000
September 30, 1996 (Unaudited):				
U.S. Government Securities	$1,200,000	$ --	$ --	$1,200,000

3. PROPERTY

Property consists of the following:

	JUNE 30, 1995	JUNE 30, 1996	SEPTEMBER 30, 1996 (UNAUDITED)
Machinery and equipment	$1,140,000	$1,337,000	$1,341,000
Office equipment	405,000	482,000	604,000
Leasehold improvements	380,000	520,000	567,000
	1,925,000	2,339,000	2,512,000
Less accumulated depreciation and amortization	(646,000)	(1,151,000)	(1,287,000)
	$1,279,000	$1,188,000	$1,225,000

Equipment under capital leases totaled $1,162,000, $1,131,000 and $1,131,000 at June 30, 1995 and 1996 and September 30, 1996, respectively, with related accumulated amortization of $407,000, $622,000 and $679,000, respectively (Note 7).

4. SHAREHOLDERS' EQUITY:

Preferred Stock--The Company has the following outstanding Preferred Stock:

	SHARES AUTHORIZED	SHARES ISSUED AND OUTSTANDING			LIQUIDATION PREFERENCE AT	
	SEPTEMBER 30, 1996	JUNE 30, 1995	JUNE 30, 1996	SEPTEMBER 30, 1996	JUNE 30, 1996	SEPTEMBER 30, 1996
	(Unaudited)			(Unaudited)		(Unaudited)
Series A	2,500,000	2,500,000	2,500,000	2,500,000	$ 2,500,000	$ 2,500,000
Series B	3,030,000	3,030,000	3,030,000	3,030,000	6,060,000	6,000,000
Series C	10,000	10,000	10,000	10,000	10,000,000	10,000,000
Series D	3,000,000	2,500,001	2,500,001	2,500,001	10,000,000	10,000,000
Series E	1,617,647	--	1,411,765	1,617,647	6,000,000	6,875,000
	10,157,647	8,040,001	9,451,766	9,657,648	$34,560,000	$35,375,000

All preferred shares have voting rights equal to the equivalent number of common shares into which they are convertible. Conversion rights on all outstanding classes of preferred stock are on a two-for-three basis to give effect for the Reverse Stock Split, except for the Series C Preferred Stock, each share of which is convertible into approximately 250 shares of Common Stock. Conversion rights on certain classes of preferred stock are subject to anti-dilution adjustments. Dividends accrue annually at 8% on all series of Preferred Stock, but do not accumulate. No cash dividends have been declared or paid through September 30, 1996. Dividends and liquidation preferences on the Series B, Series C and Series D Preferred Stock are senior to those of the Series A Preferred Stock. Dividends and liquidation preferences on the Series E Preferred Stock are senior to those of all other outstanding series of preferred stock. Conversion of preferred stock is automatic in the event of the closing of an underwritten public stock offering meeting certain minimum requirements such as the offering contemplated by the Prospectus in which these financial statements are included.

Cobe Laboratories, Inc. Stock Purchase Rights--In connection with the purchase of the Series C Preferred Stock by Cobe Laboratories, Inc. ("Cobe") in October 1993, Cobe received a preemptive right to purchase a pro-rata portion of any newly issued shares of stock by the Company in order to maintain its then current percentage ownership interest. Any such purchase of newly issued shares shall be at the net price to the Company after deducting underwriters' discounts and commissions, if any. Cobe has waived its right to such discount on its intended purchase of shares in the proposed IPO. The Company has an option ("Put Option") to require Cobe to purchase the lesser of 20%, or $5,000,000, in an offering of equity securities meeting certain minimum requirements. In the event that the Company exercises the Put Option, Cobe then has the option to purchase up to 40% of that offering.

During the three-year period following the completion of an initial public offering of Common Stock by the Company, Cobe has an option to purchase additional shares from the Company equal to 30% of the total number of shares outstanding assuming exercise of the option. Such option, if exercised, must be exercised in full with the purchase price of the shares being established at 120% of the public market trading price as determined by the 30-day average market price preceding the date of exercise of the option.

The Company has granted Cobe a right of first negotiation in the event the Company receives any proposal concerning, or otherwise decides to pursue, a merger, consolidation or other transaction in which all or a majority

of the Company's equity securities or all or substantially all of the Company's assets, or any material portion of the assets of the Company used by the Company in performing its obligations under the Distribution Agreement (Note 6) would be acquired by a third party outside of the ordinary course of business.

Stock Option Plans--The Company has various stock option plans which provide for the issuance of nonqualified and incentive stock options to acquire up to 2,836,594 shares of Common Stock. Such options may be granted by the Company's Board of Directors to certain of the Company's founders, employees, directors and consultants. The exercise price of incentive stock options shall not be less than the fair market value of the shares on the date of grant. In the case of individuals who are also holders of 10% or more of the outstanding shares of Common Stock, the exercise price of incentive stock options shall not be less than 110% of the fair market value of the shares on the date of grant. The exercise price of non-qualified stock options shall not be less than 85% of the fair market value on the date of grant. Options granted under these plans expire no later than ten years from the date of grant and generally become exercisable ratably over a four-year period following the date of grant.

For certain options granted, the Company recognizes compensation expense for the difference between the deemed value for accounting purposes and the option exercise price on the date of grant. During the three-month period ended September 30, 1996, compensation expense totaling approximately $40,000 has been charged with respect to these options. Additional future compensation expense with respect to the issuance of such options totals approximately $130,000 and will be recognized through October 2000.

The following table summarizes option activity under the Company's stock option plans:

	OPTIONS OUTSTANDING	OPTIONS AVAILABLE FOR GRANT	EXERCISE PRICE PER SHARE
March 24, 1989(Inception)			
Options authorized	--	1,703,261	
Options granted	1,528,778	(1,528,778)	$ .15 - $ .30
Options exercised	(6,873)	--	$ .15 - $ .15
Options canceled	(13,793)	13,793	$ .15 - $ .15
Balance, June 30, 1993	1,508,112	188,276	$ .15 - $ .30
Options granted	198,333	(198,333)	$ .30 - $1.20
Options exercised	(1,222,609)	--	$ .15 - $ .30
Options canceled	(90,171)	90,171	$ .15 - $1.20
Balance, June 30, 1994	393,665	80,114	$ .15 - $1.20
Options authorized	--	333,333	
Options granted	55,333	(55,333)	$ 1.20 - $1.20
Options exercised	(39,103)	--	$ .30 - $ .30
Options canceled	(60,230)	60,230	$ .30 - $1.20
Balance, June 30, 1995	349,665	418,344	$ .15 - $1.20
Options authorized	--	800,000	
Options granted	155,337	(155,337)	$ 1.20 - $3.20
Options exercised	(130,016)	--	$ .15 - $1.20
Options canceled	(44,690)	44,690	$ .30 - $1.20
Balance, June 30, 1996	330,296	1,107,697	$ .30 - $3.20
Unaudited:			
Options granted	13,334	(13,334)	$ 3.20 - $3.20
Options exercised	(833)	--	$ 1.20 - $1.20
Options canceled	(6,543)	6,543	$ 1.20 - $1.20
Balance, September 30, 1996 (Unaudited)	336,254	1,100,906	$ .30 - $3.20
Options Exercisable, June 30, 1996	101,021		$ .30 - $1.20
September 30, 1996 (Unaudited)	122,612		$ .30 - $1.20

Common Shares Reserved--The Company has reserved shares of Common Stock for future issuance as follows:

	JUNE 30, 1996	SEPTEMBER 30, 1996 (Unaudited)
Issuance under 1992 Stock Option Plan	1,437,993	1,437,160
Conversion of preferred stock	7,961,168	8,098,422
	9,399,161	9,535,582

5. FEDERAL INCOME TAXES

Deferred tax assets consist of the following:

	JUNE 30,	
	1995	1996
Net operating loss carryforwards	$ 5,280,000	$ 9,210,000
Tax credits and other	360,000	440,000
Gross deferred tax assets	5,640,000	9,650,000
Deferred tax assets valuation allowance	(5,640,000)	(9,650,000)
	$ --	$ --

Due to the historical losses incurred by the Company, a full valuation allowance for deferred tax assets has been provided. If the Company achieves profitability, these deferred tax assets may be available to offset income taxes. The Company's net operating loss and tax credit carryforwards will expire from 2004 through 2011, if not utilized.

The Company's ability to utilize its net operating loss and tax credit carryforwards would be limited in the event of a future change in ownership for tax purposes. Such a change in ownership may likely occur upon the completion of an initial public offering of the Company's Common Stock.

6. LICENSES, ROYALTIES AND COLLABORATIVE AGREEMENTS

University of Michigan--In March 1989, the Company entered into a research agreement with the University of Michigan (the "University") for the development of an adaptable, high-efficiency blood cell factory and to conduct related research. Under the terms of this research agreement, as amended, the Company agreed to reimburse the University for research costs in this regard through the date of its expiration in December 1994. Payments made to the University under the aforementioned agreements totaled $316,000, $121,000 and $2,521,000 for the years ended June 30, 1994, 1995 and for the period from Inception to June 30, 1996, respectively, which amounts are included in research and development expense in the accompanying Statements of Operations. As part of this relationship, the Company issued to the University 454,545 shares of Common Stock in August 1989. No value has been assigned to these shares in the accompanying financial statements. In March 1992, the Company entered into a license agreement for the technology developed under the research agreement. The license agreement, as amended, provides for a royalty to be paid to the University equal to 2% of net sales of products containing the licensed technology sold by the Company.

Cobe BCT, Inc.--In connection with the issuance of the Series C Preferred Stock to Cobe in October 1993, the Company and Cobe BCT, Inc. ("Cobe BCT"), an affiliate of Cobe, entered into an agreement which grants to Cobe BCT exclusive worldwide distribution and marketing rights to the Company's Cell Production System ("CPS") for stem cell therapy applications ("Distribution Agreement"). The term of the Distribution Agreement is ten years, with an option, exercisable by Cobe BCT, to extend the term for an additional ten years. Pursuant to the Distribution Agreement, Cobe BCT will perform worldwide marketing and distribution activities of the CPS for use in stem cell therapy and will receive a share of the resulting net sales, as defined, ranging from 38% to 42%, subject to certain negotiated discounts and volume-based adjustments.

The agreements establishing this collaboration provided for payments totaling $5,000,000 to be made by Cobe BCT upon the Company meeting certain development milestones. In May 1995, the Company accepted, as part of the sale of the Series D Preferred Stock, an equity investment of $5,000,000 from Cobe in lieu of those future milestone payments.

M.D. Anderson Cancer Center--In December 1992, the Company entered into a research agreement with the University of Texas, M.D. Anderson Cancer Center ("M.D. Anderson"). Under this agreement, the Company funded certain research being conducted at M.D. Anderson and issued to M.D. Anderson 33,333 shares of its Common Stock subject to vesting rights over the succeeding four year period. In November 1994, the Company and M.D. Anderson terminated the collaboration and 25,000 shares of Common Stock held by M.D. Anderson were returned to the Company.

License and Royalty Agreements--In July 1992, the Company licensed certain cell culture technology under which it obtained an exclusive worldwide license to the technology in exchange for a royalty of up to 3% of net sales on products utilizing the licensed technology.

In March 1996, the Company executed a license agreement which provides for the use of licensed products in the CPS. Pursuant to this license agreement, the Company recorded a charge to research and development expense of $1,500,000 representing the license fee payable upon execution of the agreement. The license agreement provides for annual renewal fees of $1,000,000 over the five year license term and can be extended at the Company's option for an additional five years.

Rhone-Poulenc Rorer Inc.--In September 1995, the Company entered into a research and development collaboration with Rhone-Poulenc Rorer Inc. ("RPR"), granting RPR a right to license the Company's CPS for Lymphoid cell applications. Prior to the establishment of this collaboration, the Company received a option fee of $250,000 and a development deposit of $225,000 to initiate the preliminary research and development plan. Pursuant to the agreements establishing this collaboration, RPR was obligated to fund certain costs associated with the development of the CPS for Lymphoid cell applications and was entitled to make equity purchases of up to $12,500,000 subject to the Company's satisfaction of certain milestones and RPR's decision to exercise certain options. As of June 30, 1996, the Company has received $3,500,000 in equity payments and recognized $1,342,000 in research revenue through June 30, 1996 and $1,537,000 through September 30, 1996. The remaining $9,000,000 equity payment was to be paid by RPR by October 1996 pending RPR's evaluation of the research efforts for Lymphoid cell applications and its decision to proceed with the collaboration (Note 9).

7. COMMITMENTS

The Company leases certain machinery and equipment and office equipment under capital leases. Obligations under these leasing arrangements bear interest at rates ranging from 9.7% to 12.1% and mature at dates ranging from November 1996 to May 1999. Additionally, the Company leases its facilities under an operating lease which expires in May 1998, at which time the Company has the option to renew the lease for an additional period of up to five years.

Future minimum payments under capital leases and non-cancelable operating leases are as follows:

	CAPITAL LEASES	OPERATING LEASES
Year Ended June 30,		
1997	$255,000	$453,000
1998	138,000	435,000
1999	69,000	--
Total minimum lease payments	462,000	$888,000
Less amount representing interest	(50,000)	
Obligations under capital lease	$412,000	

Certain of the Company's capital lease agreements contain restrictive provisions which require that the Company's total assets exceed its total liabilities by at least $1,000,000. Should the Company fall out of compliance with this provision, and a waiver cannot be obtained from the lessor, remaining amounts due under the leases become immediately due and payable.

Rent expense for the years ended June 30, 1994, 1995 and 1996, was $176,000, $241,000 and $338,000, respectively, and for the period from Inception to June 30, 1996 was $822,000. Rent expense for the three months ended September 30, 1995 and 1996, was $83,000 and $107,000, respectively, and for the period from Inception to September 30, 1996 was $929,000.

8. EMPLOYEE SAVINGS PLAN

The Company has a 401(k) plan that became effective in January 1994. The plan allows participating employees to contribute up to 15% of their salary, subject to annual limits and minimum qualifications. The Board may, at its sole discretion, approve Company contributions. Through June 30, 1996, the Company has made no contributions to the plan.

9. SUBSEQUENT EVENTS (UNAUDITED)

In September 1996, RPR notified the Company of its intent to terminate its collaboration with the Company. This notification was made after RPR had determined that for strategic reasons its support for the development of the technologies being pursued under the collaboration would be discontinued. As a result of this termination, no further equity payments or research funding is due from RPR and RPR's license rights to the Company's CPS for Lymphoid cell applications are terminated. Upon termination of the collaboration, RPR became entitled to receive shares of the Company's Series E Preferred Stock at $17.00 per share for the $3,500,000 in equity payments made by RPR under the collaboration. Accordingly, the accompanying financial statements as of September 30, 1996 reflect the authorization and issuance of 205,882 shares of Series E Preferred Stock issuable to RPR in this regard.

In October 1996, the Company executed a financing commitment for up to $5,000,000 in additional equity funding from Cobe ("Equity Commitment") and $5,000,000 in funding under a convertible loan agreement ("Convertible Loan Commitment") with another current investor. Under the terms of the Equity Commitment,

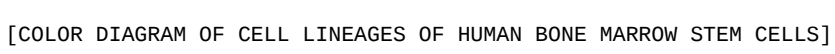
the Company may sell up to $5,000,000 of preferred stock at $6.00 per share during a funding period that extends from January 1997 to December 1997. The conversion rights of such preferred stock will be adjusted to provide for a conversion at 80% of the per share price in the Company's next financing, as adjusted for the Reverse Stock Split, and provided that such financing meets certain minimum requirements ("Qualifying Financing"), such as the proposed IPO in which these financial statements appear. If such a financing is not completed by December 1997, then the conversion rights of this class of preferred stock into Common Stock will be set at $6.98 per share of Common Stock. To the extent shares are sold to Cobe under the Equity Commitment, its preemptive right in the Company's next Qualifying Financing and the Company's Put Option to Cobe is reduced to the extent of its purchase.

Upon the sale of $5,000,000 in preferred stock under the Equity Commitment, the Company becomes entitled to borrow funds under the Convertible Loan Commitment. Such funds may be borrowed by the Company during a funding period that extends from January 1997 to September 1997. Upon the completion of a Qualifying Financing by the Company, the Company has the option to repay outstanding borrowings under the Convertible Loan Commitment, in cash, or to convert such borrowings into preferred stock. The conversion rights of such class of preferred stock will be adjusted to provide for a conversion at 90% of the per share price in the Company's next Qualifying Financing, as adjusted for the Reverse Stock Split. If such financing is not completed by December 1997, then the conversion rights of this class of preferred stock will be set at $6.98 per share of Common Stock. Interest accrues at 10% on amounts borrowed under the Convertible Loan Commitment, which is due at maturity, and may be retired in a manner consistent with principal. The Company may repay borrowed amounts at anytime prior to the maturity date which is established for all amounts borrowed as one year from the date of the first borrowing.

In connection with the Convertible Loan Commitment, the Company has issued warrants to purchase 69,444 shares of Common Stock for securing the commitment. The Company will issue additional warrants to purchase 8,333 shares of Common Stock for each $1,000,000 borrowed under the Convertible Loan Commitment, with such additional warrants to be prorated to the level of borrowing. The warrants expire on October 15, 2000 if not exercised, and may be exercised, in whole or in part, at a price equal to the lesser of (a) $9.00 per share, which price increases by $3.00 per share on each anniversary of the closing of the offering being made in the Prospectus to which these financial statements are included; or (b) 85% of the fair market value of the Company's Common Stock at the time of exercise.

On December 10, 1996, the Company issued to Cobe a notice to sell to Cobe 500,000 shares of Series F Preferred Stock for an aggregate purchase price of $3,000,000 under the Equity Commitment. Such sale is scheduled to close on March 19, 1997. In the event that the IPO closes prior to March 19, 1997, Cobe's obligation to purchase Series F Preferred Stock under the Equity Commitment will terminate. In the event that the IPO closes after March 19, 1997, Cobe's participation in this offering will be reduced by $3,000,000, the amount of its purchase of Series F Preferred Stock pursuant to the Equity Commitment. The Equity Commitment and the Convertible Loan Commitment expire upon the closing of the IPO.

Inside back cover page of Prospectus



No dealer, salesperson or other person has been authorized to give any information or to make any representations other than those contained in this Prospectus, and, if given or made, such information or representation must not be relied upon as having been authorized by the Company or any of the Underwriters or any other person. This Prospectus does not constitute an offer to sell or a solicitation of an offer to buy any security other than the shares of Common Stock offered, nor does it constitute an offer to sell or a solicitation of an offer to buy any of the securities offered to any person in any jurisdiction or in which it is unlawful to make such offer or solicitation to such person. Neither the delivery of this Prospectus nor any sale made hereunder shall under any circumstances create an implication that the information contained herein is correct as of any date subsequent to the date hereof.

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Until , 1997 (25 days after the date of this Prospectus), all dealers effecting transactions in the Common Stock offered, whether or not participating in this distribution, may be required to deliver a Prospectus. This is in addition to the obligation of dealers to deliver a Prospectus when acting as Underwriters and with respect to their unsold allotments or subscriptions.

3,250,000 Shares

[LOGO OF AASTROM BIOSCIENCES INC.]

Common Stock

PROSPECTUS

COWEN & COMPANY

J.P. MORGAN & CO.

, 1997

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

Other expenses in connection with the registration of the securities hereunder, which will be paid by the Company, will be substantially as follows:

ITEM	AMOUNT
Securities and Exchange Commission registration fee	$ 11,326
NASD filing fee	4,238
Nasdaq National Market fee	50,000
Blue sky qualification fees and expenses	20,000
Accounting fees and expenses	85,000
Legal fees and expenses	350,000
Printing and engraving expenses	115,000
Transfer agent and registrar fees	7,500
Officers' and Directors' Insurance	200,000
Miscellaneous expenses	56,936
Total	$900,000

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Sections 1561 through 1565 of the Michigan Business Corporation Act (the "MBCA") authorize a corporation to grant or a court to award, indemnity to directors, officers, employees and agents in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising under the Securities Act of 1933.

The Bylaws of the Company (see Exhibit 3.3), provide that the Company shall, to the fullest extent authorized or permitted by the MBCA, or other applicable law, indemnify a director or officer who was or is a party or is threatened to be made a party to any proceeding by or in the right of the Company to procure a judgment in its favor by reason of the fact that such person is or was a director, officer, employee or agent of the Company, against expenses, including actual and reasonable attorneys' fees, and amounts paid in settlement incurred in connection with the action or suit, if the indemnitee acted in good faith and in a manner the person reasonably believed to be in, or not opposed to, the best interests of the Company or its shareholders. This section also authorizes the Company to advance expenses incurred by any agent of the Company in defending any proceeding prior to the final disposition of such proceeding upon receipt of an undertaking by or on behalf of the agent to repay such amount unless it shall be determined ultimately that the agent is entitled to be indemnified.

The Bylaws also authorize the Company to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Company against any liability asserted against or incurred by such person in such capacity or arising out of such person's status as such, regardless of whether the Company would have the power to indemnify such person against such liability under the provisions of the MBCA.

The Company has entered into an indemnification agreement with certain of its directors, officers and other key personnel, which contains provisions that may in some respects be broader than the specific indemnification provisions contained under applicable law. The indemnification agreement may require the Company, among other things, to indemnify such directors, officers and key personnel against certain liabilities that may arise by reason of their status or service as directors, officers or employees of the Company, to advance the expenses incurred by such parties as a result of any threatened claims or proceedings brought against them as to which

they could be indemnified, and, to the maximum extent that insurance coverage of such directors, officers and key employees under the Company's directors' and officers' liability insurance policies is maintained.

Section 1209 of the MBCA permits a Michigan corporation to include in its Articles of Incorporation a provision eliminating or limiting a director's liability to a corporation or its shareholders for monetary damages for breaches of fiduciary duty. The enabling statute provides, however, that liability for breaches of the duty of loyalty, acts or omissions not in good faith or involving intentional misconduct or knowing violation of the law, or the receipt of improper personal benefits cannot be eliminated or limited in this manner. The Company's Restated Articles of Incorporation include a provision which eliminates, to the fullest extent permitted by the MBCA director liability for monetary damages for breaches of fiduciary duty.

Section 6 of the Underwriting Agreement filed as Exhibit 1.1 hereto sets forth certain provisions with respect to the indemnification of certain controlling persons, directors and officers against certain losses and liabilities, including certain liabilities under the Securities Act.

ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES

(a) ISSUANCES OF COMMON STOCK

Since October 1, 1993, the Company has sold the following shares of Common Stock:

In October 1995, the registrant issued 37,500 shares of Common Stock to Albert B. Deisseroth at a price of $.80 per share.

(b) ISSUANCES OF SHARES OF PREFERRED STOCK

Since October 1, 1993, the Company has sold the following shares of Preferred Stock:

In October 1993, the registrant issued 10,000 shares of Series C Preferred Stock to Cobe at a price of $1,000 per share.

In April and May 1995, the registrant issued an aggregate of 2,500,001 shares of Series D Preferred Stock to 11 accredited investors at a price of $4.00 per share.

In December 1995, the registrant issued 62,500 shares of Series D Preferred Stock to Northwest Ohio Venture Fund, L.P. at a purchase price of $4.00 per share.

In January 1996, the registrant issued an aggregate of 1,411,765 shares of Series E Preferred Stock to SBIC Partners, L.P. and the State Treasurer of the State of Michigan at a purchase price of $4.25 per share.

Pursuant to a Governance Agreement between the Company and Rhone-Poulenc Rorer Inc. ("RPR"), dated September 15, 1995, RPR terminated its contractual relationship with the Company on September 6, 1996. As a result of such termination, the Company issued 205,882 shares of Series E Preferred Stock to RPR at a purchase price of $17.00 per share.

In October 1996, the Company issued warrants to Michigan to purchase 69,444 shares of Common Stock as consideration for the Convertible Loan Commitment and has agreed to issue additional warrants to purchase 8,333 shares of Common Stock for each $1,000,000 borrowed under the Convertible Loan Commitment, as adjusted to the level of borrowing.

(c) OPTION ISSUANCES TO, AND EXERCISES BY, EMPLOYEES AND DIRECTORS

From January 18, 1990 to the present, the registrant has granted options to purchase a total of 2,945,174 shares of Common Stock at exercise prices ranging from $.10 to $2.13 per share to 95 employees and one non-employee director. No consideration was paid to the Registrant by any recipient of any of the foregoing options for the grant of any such options. From October 30, 1992 to the present, the Registrant issued a total of 2,838,900 shares of Common Stock to 28 employees and one non-employee director upon exercise of stock options at exercise prices ranging from $.10 to $2.13 per share.

There were no underwriters employed in connection with any of the transactions set forth in Item 15.

The issuances described in Items 15(a) and 15(b) were exempt from registration under the Securities Act in reliance on Section 4(2) of the Securities Act as transactions by an issuer not involving a public offering. The issuances described in Item 15(c) were exempt from registration under the Securities Act in reliance on Rule 701 promulgated thereunder as transactions pursuant to compensatory benefit plans and contracts relating to compensation. The recipients of securities in each such transaction represented their intention to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the share certificates and other instruments issued in such transactions.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Exhibits

1.1**	Form of Underwriting Agreement.
3.1**	Restated Articles of Incorporation.
3.2**	Form of Restated Articles of Incorporation (as filed with the Secretary of State of the State of Michigan prior to the closing of this offering).
3.3**	Bylaws, as amended.
4.1**	Specimen Common Stock Certificate.
4.2**	Amended and Restated Investors' Rights Agreement dated April 7, 1992.
5.1**	Opinion of Pepper, Hamilton & Scheetz, counsel to the Company, with respect to the legality of the securities being registered, including their consent to being named in the Registration Statement.
10.1**	Form of Indemnification Agreement.
10.2**	1989 Stock Option Plan and form of agreement thereunder.
10.3**	Ancillary Stock Option Plan and form of agreement thereunder.
10.4**	401(k) Plan.
10.5**	Amended and Restated 1992 Incentive and Non-Qualified Stock Option Plan and forms of agreements thereunder.
10.6**	1996 Outside Directors Stock Option Plan and forms of agreements thereunder.
10.7**	1996 Employee Stock Purchase Plan and form of agreement thereunder.
10.8**	Form of Employment Agreement.
10.9**	Stock Purchase Agreement dated October 22, 1993 between Cobe Laboratories, Inc. and the Company and amendment thereto dated October 29, 1996.
10.10+	Distribution Agreement dated October 22, 1993 between Cobe BCT, Inc. and the Company and amendments thereto dated March 29, 1995, September 11, 1995 and October 29, 1996.
10.11**	License Agreement dated July 17, 1992 between J.G. Cremonese and the Company and related addenda thereto dated July 14, 1992 and July 7, 1993.
10.12+	Collaborative Product Development Agreement dated May 10, 1994 between SeaMED Corporation and the Company.
10.13+	Collaborative Product Development Agreement dated November 8, 1994 between Ethox Corporation and the Company.
10.14+	License and Supply Agreement dated April 1, 1996 between Immunex Corporation and the Company.

10.15** Lease Agreement dated May 18, 1992 between Domino's Farms Holding, L.P. and the Company and amendments thereto dated February 26, 1993, October 3, 1994, November 16, 1994 and July 29, 1996.

10.16** Clinical Trial Agreement dated April 19, 1996 between the Company and the University of Texas M.D. Anderson Cancer Center.

10.17** License Agreement dated March 13, 1992 between the Company and the University of Michigan and amendments thereto dated March 13, 1992, October 8, 1993 and June 21, 1995.

10.18** Employee Proprietary Information and Invention Agreement effective June 1, 1991 between the Company and R. Douglas Armstrong.

10.19** Employment Agreement dated June 19, 1992 between the Company and James Maluta.

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10.21** Employment Agreement dated February 10, 1994 between the Company and Walter C. Ogier.

10.22** Employment Agreement dated April 19, 1994 between the Company and Thomas E. Muller, Ph.D.

10.23** Employment Agreement dated October 26, 1995 between the Company and Alan K. Smith, Ph.D.

10.24** Promissory Note dated November 18, 1993 for $120,000 loan by the Company to R. Douglas Armstrong and amendment thereto dated October 30, 1996.

10.25** Promissory Note dated October 20, 1993 for $47,303 loan by the Company to Stephen G. Emerson, M.D., Ph.D and amendment thereto dated October 30, 1996.

10.26** Consulting Agreement dated June 1, 1995 between the Company and Stephen G. Emerson, M.D., Ph.D.

10.27** Clinical Trial Agreement dated August 28, 1996 between the Company and Loyola University Medical Center Cancer Center.

10.28** Stock Purchase Commitment Agreement dated October 29, 1996 between Cobe Laboratories, Inc. and the Company.

10.29** Convertible Loan Commitment Agreement dated October 15, 1996 between the State Treasurer of the State of Michigan and the Company.

10.30** Form of Subscription Agreement for the purchase of Series D Preferred Stock (Enterprise Development Fund L.P., Enterprise Development Fund II, L.P. and Northwest Ohio Venture Fund Limited Partnership).

10.31** Stock Purchase Agreement dated January 8, 1996 among the Company, SBIC Partners, L.P. and the State Treasurer of the State of Michigan.

10.32+ Governance Agreement dated September 15, 1995 between the Company and Rhone-Poulenc Rorer Inc.

10.33+ License Agreement dated September 15, 1995 between the Company and Rhone-Poulenc Rorer Inc.

10.34** Stock Purchase Agreement dated September 15, 1995 between the Company and Rhone-Poulenc Rorer Inc.

10.35**	Letter Agreement dated November 11, 1996 between the Company and Cobe Laboratories, Inc.
10.36**	Form of Subscription Agreement for the purchase of Series D Preferred Stock (Brentwood Associates V, L.P., Candice E. Appleton Family Trust, Candis J. Stern, Helmut F. Stern, H&Q Life Science Technology Fund, H&Q London Ventures, State Treasurer of the State of Michigan and Windpoint Partners II, Limited Partnership).
10.37**	Subscription Agreement dated December 11, 1995 between the Company and Northwest Ohio Venture Fund Limited Partnership.
10.38**	Subscription Agreement dated May 30, 1995 between the Company and Cobe Laboratories, Inc.
10.39**	Termination Agreement dated November 14, 1996 between the Company and Rhone-Poulenc Rorer Inc.
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10.41**+	Collaborative Supply Agreement dated December 16, 1996 between the Company and Anchor Advanced Products, Inc., Mid-State Plastics Division.
11.1**	Statement re computation of pro forma net loss per share.
23.1	The consent of Coopers & Lybrand, L.L.P.
23.2**	The consent of Pepper, Hamilton & Scheetz is contained in their opinion filed as Exhibit 5.1 of the Registration Statement.
23.3	The consent of Oblon, Spivak, McClelland, Maier & Neustadt, P.C.
24.1**	Power of Attorney.
27.1**	Financial Data Schedule.
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27.5**	Financial Data Schedule.
27.6**	Financial Data Schedule.

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**Previously filed.

+ The Company has applied for confidential treatment with respect to certain portions of these documents.

(b) Financial Statement Schedules

Schedules other than those referred to above have been omitted because they are not applicable or not required under the instructions contained in Regulation S-X or because the information is included elsewhere in the Financial Statements or the notes thereto.

ITEM 17. UNDERTAKINGS

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant, pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that

a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933 shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

The undersigned Registrant hereby undertakes to provide to the underwriter at the closing specified in the underwriting agreements certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this amendment to the registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Ann Arbor, State of Michigan, on the 28th day of January, 1997.

AASTROM BIOSCIENCES, INC.

/s/ R. Douglas Armstrong
By: _____
R. Douglas Armstrong, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Pursuant to the requirements of the Securities Act of 1933, this amendment to the registration statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ R. Douglas Armstrong R. Douglas Armstrong, Ph.D.	President, Chief Executive Officer, and Director (Principal Executive Officer)	January 28, 1997
Todd E. Simpson* Todd E. Simpson	Vice President, Finance & Administration and Chief Financial Officer (Principal Financial and Accounting Officer)	January 28, 1997
Robert J. Kunze* Robert J. Kunze	Chairman of the Board and Director	January 28, 1997
Albert B. Deisseroth* Albert B. Deisseroth, M.D., Ph.D.	Director	January 28, 1997
Stephen G. Emerson* Stephen G. Emerson, M.D., Ph.D.	Director	January 28, 1997
G. Bradford Jones* G. Bradford Jones	Director	January 28, 1997
Horst R. Witzel* Horst R. Witzel, Dr.-Ing.	Director	January 28, 1997
Edward C. Wood* Edward C. Wood, Jr.	Director	January 28, 1997

*By: /s/ R. Douglas Armstrong
R. Douglas Armstrong
Attorney-in-Fact

EXHIBIT INDEX

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EXHIBIT 10.10

EXECUTION COPY

DISTRIBUTION AGREEMENT

Between

COBE BCT, INC.

and

AASTROM BIOSCIENCES, INC.

Dated as of October 22, 1993

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EXECUTION COPY

DISTRIBUTION AGREEMENT

DISTRIBUTION AGREEMENT dated as of October 22, 1993 between AASTROM BIOSCIENCES, INC., a Michigan corporation (the "Supplier"), and COBE BCT, INC., a Colorado corporation (the "Distributor").

W I T N E S S E T H:

WHEREAS, the Supplier wishes to create, develop and manufacture and supply Products (as defined below) and to have the Products marketed worldwide;

WHEREAS, the Distributor wishes to sell, market and distribute the Products worldwide; and

WHEREAS, the Supplier wishes that the Distributor distribute the Products worldwide;

NOW, THEREFORE, in consideration of the premises and mutual covenants and agreements hereinafter set forth, the Supplier and the Distributor agree as follows:

ARTICLE I

DEFINITIONS

SECTION 1.01. Definitions. As used in this Agreement, the following terms shall have the following meanings:

"ACL" has the meaning specified in Section 2.04(b).

"Actual International Direct Sales" means for any Direct Sales Country the unit Sales of any of the Products other than Spare Parts by the Distributor to Stem Cell Therapy Customers in such Direct Sales Country in which the purchase price is due and payable in cash from the purchaser of such Products substantially contemporaneously with (i.e., within 60 days of) such Sales in such Country expressed in the official currency unit of such Country.

"Actual International Direct Sales Amount" for any Product in any Direct Sales Country for any calendar month means the Actual International Direct Sales of such Product during such month in such Country multiplied by the greater of (a) the Average International Direct Selling Price for such Product for such Country and (b) the Minimum International Direct Selling Price for such Product for such Country expressed in the official currency unit of such Country.

"Actual Subdistributor Sales" means the unit Sales of the Products other than Spare Parts by the Distributor to Subdistributors outside the United States (other than Direct Sales Countries) in which the purchase price is due and payable in cash from the purchaser of such Products substantially contemporaneously with (i.e., within 60 days of) such Sales.

"Actual Subdistributor Sales Amount" for any Product for any calendar month means the Actual Subdistributor Sales of such Product during such month multiplied by the greater of (a) the Average Subdistributor Selling Price for such Product and (b) the Minimum Subdistributor Selling Price for such Product.

"Average Subdistributor Selling Price" means, for any Product for any calendar month, the aggregate selling price, net of any applicable discounts, less any payments made to Subdistributors, of Actual Subdistributor Sales divided by the quantity of such Product sold during such calendar month.

"Affiliate" means (a) with respect to the Distributor, any Person other than the Distributor (i) that is controlled, either directly or indirectly, by Investment AB Cardo, (ii) for which a Person controlled, either directly or indirectly, by Investment AB Cardo is the principal manager, or (iii) in which Investment AB Cardo has an equity ownership interest of ten percent or more; and (b) with respect to the Supplier, any Person other than the Supplier (i) that is controlled, either directly or indirectly, by the Supplier, (ii) for which the Supplier is the principal manager or (iii) in which the Supplier has an equity ownership interest of ten percent or more.

"Affiliate Sales" has the meaning specified in Section 2.01(d).

"Agreement" or "this Agreement" means this Distribution Agreement dated as of October 22, 1993 between the Supplier and the Distributor (including the schedules hereto) and all amendments, modifications and supplements made in accordance with Section 10.01 hereof.

"Average International Direct Selling Price" means, for any Product in any Direct Sales Country for any calendar month, the aggregate selling price, net of all applicable discounts, less any payments made to Subdistributors (all expressed in the offficial currency of such Country), of all Actual International Direct Sales of such Product in such Country during such calendar month, divided by the quantity of such Product sold during such calendar month in such Country expressed in the official currency unit of such Country.

"Base Term" has the meaning specified in Section 7.01.

"BIU" has the meaning specified in Section 2.01(a)(i).

"Change of Use" has the meaning specified in Section 2.04(a).

"Co-Marketing Arrangement" has the meaning specified in Section 7.05(b).

"Competitive Product" means any product (other than the Distributor's Products) that competes with the Products for use by the same Customer such that the Customer might use such product instead of any of the Products.

"Complete System Sale" means the Sale by the Distributor to one or more Stem Cell Therapy Customers of all of the Products specified in (i), (iii), (vii), (x) and (xi) of Section 2.01(a) at such time as all of the Products specified in (ii), (v), (vi), (viii) and (ix) of Section 2.01(a) are generally available for purchase by Customers and have been delivered to the Distributor or in the Distributor's reasonable judgment, are available for delivery, to the Distributor.

"Confidential Information" means all confidential or secret data, reports, interpretations, forecasts, records, marketing, sales and other commercial data or reports, trade secret information, know-how methods, procedures, designs, technology, inventions, ideas, specifications, plans, patent applications and related correspondence, or other information that the parties hereto provide to each other in connection with this Agreement, together with analyses, compilations, studies or other documents, whether prepared by their respective agents or attorneys, which contain or otherwise reflect such information; provided, however, that the following shall not constitute Confidential Information for purposes of this Agreement:

(a) information which was in one of such parties' possession prior to its receipt from the other of such parties;

(b) information which is obtained by one of such parties from a third person who, insofar as is known to such party, is not prohibited from transmitting the information to such party by a contractual, legal or fiduciary obligation to the other of such parties; and

(c) information which is or becomes publicly available through no fault of either of such parties.

"Control" (including the terms "controlled by" and "under common control with"), with respect to the relationship between or among two or more Persons, means the possession, directly or indirectly or as trustee or executor, of the power to direct or cause the direction of the affairs or management of a Person, whether through the ownership of voting securities, as trustee or executor, by contract or otherwise, including, without limitation, the ownership, directly or indirectly, of securities having the power to elect a majority of the board of directors or similar body governing the affairs of such Person.

"Customer" means any party to whom Products are sold or reasonably are expected to be sold. Different units within a single Person (e.g., a blood bank, an apheresis center, a transplant center) will be considered separate Customers for purposes of this Agreement if each such unit has the primary decision-making authority for the purchase of the Products, notwithstanding the fact that payment for the Products may be issued by the same Person.

"Customer License" has the meaning specified in Section 2.01(a).

"Customer Service Information" has the meaning specified in Section 2.04(b).

"Deductible" has the meaning specified in Section 3.09(b).

"Deemed International Direct Sales" means, for any Product (other than Spare Parts) in any Direct Sales Country for any calendar month, the aggregate unit sales of such Product by the Distributor to Stem Cell Therapy Customers, other than Actual International Direct Sales.

"Deemed International Direct Sales Amount" for any Direct Sales Country calendar month means the Deemed International Direct Sales of each Product in any Direct Sales Country during such calendar month multiplied by the greater of (a) the Average International Direct Selling Price for such Product in such Direct Sales Country and (b) the Minimum International Direct Selling Price for such Product for any Direct Sales Country expressed in the official currency unit of such Country.

"Deemed Subdistributor Sales" means, for any Product (other than Spare Parts) for any calendar month, the aggregate unit Sales of such Product by the Distributor, other than Actual Subdistributor Sales.

"Deemed Subdistributor Sales Amount" for any calendar month means the Deemed Subdistributor Sales of each Product during such calendar month multiplied by the greater of (a) the Average Subdistributor Selling Price for such Product and (b) the Minimum Subdistributor Selling Price for such Product.

"Direct Sales Countries" has the meaning specified in Section 2.02(c).

"Disposables" has the meaning specified in Section 2.01(a).

"Distributor" has the meaning set forth in the preamble to this Agreement.

"Distributor Customer Service Information" has the meaning specified in Section 2.04(b).

"Distributor Indemnified Person" has the meaning specified in Section 4.12.

"Distributor's Notice of Breach" has the meaning specified in Section 7.02.

"Distributor's Products" means (i) the Spectra Apheresis System, (ii) the 2991 Blood Cell Processor, (iii) stem cell freezing solutions and protocols, (iv) immunological tumor purging systems that do not provide for positive selection of stem cells, (v) all improvements or enhancements to any of the foregoing and (vi) any

successor product to any of the foregoing that is not a Competitive Product.

"Equipment" has the meaning specified in Section 2.01(a).

"Excess Payments" has the meaning specified in Section 4.09.

"Exchange Rate" means, with respect to any Direct Sales Country for any calendar month the average monthly market rate at which the official currency unit of such Country is exchangeable into one U.S. dollar.

"FDA" means the United States Food & Drug Administration.

"Fiscal Year" means any fiscal year ended June 30.

"Growth Medium" has the meaning specified in Section 2.01(a).

"Infringement" has the meaning specified in Section 3.05.

"Intellectual Property Rights" means any rights to any patents, patent rights, copyrights, trademarks, service marks, trade names, trademark rights, trade name rights or trade secrets.

"International Direct Monthly Purchase Price" has the meaning specified in Section 5.02(c).

"International Direct Products" means the Products other than Spare Parts sold by the Distributor to Stem Cell Therapy Customers in Direct Sales Countries.

"IP Enforcement Actions" has the meaning specified in Section 3.05.

"IP Enforcement Costs" has the meaning specified in Section 3.05.

"Joint Registration" has the meaning specified in Section 4.07.

"License" has the meaning specified in Section 7.07(a).

"Market Development Program" means the program attached hereto as Schedule B, to promote and market the Products, as such program may be modified and amended from time to time in accordance with Section 2.04 hereof.

"Milestone Fees" has the meaning specified in Section 5.03(c).

"Minimum Direct International Selling Price" means, for each Product in each Direct Sales Country, the minimum direct international selling price for such Product in such Country expressed in the official currency unit of such Country.

"Minimum Subdistributor Selling Price" means, for each Product, the minimum selling price to Subdistributors for such Product.

"Monetary Breach" has the meaning specified in Section 7.03.

"Monthly Parts Purchase Price" has the meaning specified in Section 5.02(e).

"Monthly Purchase Price" means the sum of the U.S. Monthly Purchase Price, the International Direct Monthly Purchase Price for each Direct Sales Country, the Monthly Parts Purchase Price and the Subdistributor Purchase Price.

"Monthly Report" has the meaning specified in Section 5.03.

"Notice of Breach" has the meaning specified in Section 7.02.

"Objection" has the meaning specified in Section 7.04.

"Party" means a party to this Agreement.

"Permitted Clinical Research Applications" means any clinical or therapeutic use of the Products for any clinical research or trial that is expected to result in a new application of, or a new FDA-approved indication for, the Products.

"Person" means any individual, partnership, firm, corporation, association, trust, unincorporated organization or other entity, as well as any syndicate or group that would be deemed to be a person under Section 13(d)(3) of the Securities Exchange Act of 1934, as amended.

"Plan" has the meaning specified in Sections 2.03(e) and (f).

"Policy" has the meaning specified in Section 3.09(a).

"Premiums" has the meaning specified in Section 3.09(a).

"Pricing Information" has the meaning specified in Section 4.11.

"Principal Components of the Market Development Program" has the meaning specified in Section 2.03(f).

"Principal Components of the Product Development Program" has the meaning specified in Section 2.03(e).

"Principal Objection" has the meaning specified in Section 2.04(b).

"Product Development Program" means the program attached hereto as Schedule A, for the design, creation, validation, manufacture and release of the Products, as such program may be modified and amended from time to time in accordance with Section 2.04 hereof.

"Products Liability Cap" has the meaning specified in Section 4.09.

"Product Liability Claims" has the meaning specified in Section 3.09(a).

"Products" has the meaning specified in Section 2.01(a).

"Programs" means, collectively, the Market Development Program and the Product Development Program.

"Purchased Spare Parts" has the meaning specified in Section 5.02(e).

"Retaliatory IP Claims" has the meaning specified in Section 3.05(a).

"Sale" and any grammatical variant thereof means any sale, conditional sale, installment sale, rental, lease or other arrangement whereby the Products are placed at the disposal of a Customer in exchange for value received or to be received.

"Sales Threshold" means (x) $60 million in any Fiscal Year up to and including 1998, (y) $125 million in the Fiscal Year 1999 and (z) $200 million in the Fiscal Year 2000 and thereafter.

"SCTIP Rights" has the meaning specified in Section 3.05.

"Sixth Insurance Year" has the meaning specified in Section 4.09.

"Solutions" has the meaning specified in Section 2.01(a).

"Spare Parts" has the meaning specified in Section 2.01(a)(ix).

"Stem Cell Therapy Applications" means applications of the Products pursuant to which human bone marrow or peripheral blood derived stem and hematopoietic cells are used primarily for one or more of the following: (a) restoration of hematopoietic function; (b) augmentation of the recovery of a previously damaged hematopoietic system; and (c) augmentation of the recovery of

previously damaged bone marrow; provided, however, that such cells have not been altered through the introduction of a new genetic component. Notwithstanding anything in this Agreement to the contrary, Stem Cell Therapy Applications shall not include any of the following applications of the Products: (i) all diagnostic or other non-therapeutic clinical applications; (ii) all gene therapy or gene transfer applications; (iii) all non-human applications; (iv) all Permitted Clinical Research applications; and (v) all applications in which the Products are labelled not for human use.

"Stem Cell Therapy Customers" means Customers who perform, or are reasonably expected to perform, Stem Cell Therapy Applications.

"Subdistributor Monthly Purchase Price" has the meaning specified in Section 5.02(b).

"Subdistributor Products" means Products other than Spare Parts sold by the Supplier to the Distributor for resale and distribution to Subdistributors in countries outside of the United States (other than Direct Sales Countries).

"Subdistributors" has the meaning specified in Section 2.02(a).

"Supplier" has the meaning set forth in the preamble to this Agreement.

"Supplier Customer Service Information" has the meaning specified in Section 2.04(b).

"Supplier Deficiency" has the meaning specified in Section 4.09.

"Supplier Indemnified Person" has the meaning specified in Section 3.08.

"Supplier's New Products" has the meaning specified in Section 2.01(f).

"Supplier's Notice of Breach" has the meaning specified in Section 7.02.

"Supplier's Other Products" means the Supplier"s products (other than the Products) that utilize some or all of the Products as components and that are not Competitive Products.

"Supplier Products Liability Payments" has the meaning specified in Section 4.09.

"Supplier's Share" has the meaning specified in Section 4.10.

"Target Prices" has the meaning specified in Section 2.03(f).

"Upcharges" means amounts included in the Distributor"s selling price for Actual U.S. Sales, Actual International Direct Sales, or the Actual Subdistributor Sales of Disposables to a Stem Cell Therapy Customer (in the case of Actual U.S. Sales and Actual International Direct Sales) or to a Subdistributor (in the case of Actual Subdistributor Sales) in any calendar month that reflect the Distributor's depreciation of, and interest on, Equipment or rental, lease or other deferred payments for Equipment, where the value of such Equipment previously has been included in one of the formulae set forth in Section 5.02(a), (b), or (c) in Deemed U.S. Sales, Deemed International Direct Sales or Deemed Subdistributor Sales, respectively.

"Unreimbursed Losses" has the meaning specified in Section 3.09(b).

"U.S. Monthly Purchase Price" has the meaning specified in Section 5.02(a).

"U.S. Products" means the Products other than Spare Parts sold by the Distributor to Stem Cell Therapy Customers in the United States.

"Worldwide Sales" means the sum of the (i) Deemed International Sales Amount, (ii) Deemed U.S. Sales Amount, (iii) Deemed Subdistributor Sales Amount, (iv) Actual International Direct Sales, (v) Actual U.S. Sales and (vi) Actual Subdistributor Sales.

ARTICLE II

APPOINTMENT AS DISTRIBUTOR

SECTION 2.01. Appointment and Acceptance; Products; Exclusivity; Affiliate Sales. (a) The Supplier hereby appoints the Distributor, and the Distributor hereby accepts appointment, in each case on the terms and subject to the conditions of this Agreement, as the Supplier's worldwide distributor for Stem Cell Therapy Applications of the following products, or such alterations to, or replacements for, such products as may be developed in accordance with the Product Development Program (collectively, the "Products"):

(i) a biochamber incubation unit (a "BIU") that controls the biological and physical environment during the expansion process;

(ii) a BIU monitor module that provides a central display, an operator input device and a printer;

(iii) an inoculation and harvest unit that facilitates the initial filling and inoculation of cells, as well as the final harvest of cells at the completion of the expansion process;

(iv) a system rack to integrate conveniently the multiple biochamber and incubation units with the companion monitor modules (together with the products described in (i), (ii) and (iii) above and the improvements and enhancements hereto and thereto, the "Equipment");

(v) an incubation and growth medium required by the cell culture, which shall include to the extent required, growth factors, glutamine, antibiotics, serums and other substances ("Growth Medium");

(vi) harvest reagents which facilitate the removal of the expanded cells from the biochamber (together with the Growth Medium and all improvements and enhancements hereto and thereto, the "Solutions");

(vii) a disposable biochamber cartridge where the growth and expansion of cells takes place (together with all improvements and enhancements hereto and the Solutions, the "Disposables");

(viii) all improvements and enhancements to the products described in (i) through (vii) above;

(ix) spare parts for the Equipment ("Spare Parts");

(x) a license for the use of such products solely for Stem Cell Therapy Applications (the "Customer License"); and
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(xi) instructions for the use of each of such products, other than the Customer License.

(b) Except as provided in Section 2.01(d), the Distributor and each Subdistributor shall sell the Products only in conjunction with Customer Licenses.

(c) Except as otherwise specifically provided in this Section 2.01 and in Sections 4.01(b) and 7.05(b), the Supplier shall not (i) authorize any Person other than the Distributor to act as a distributor of any of the Products (or any product that includes any Product as a component) to, or for resale to, Customers whose predominant use of the Products is, or reasonably is expected to be, for Stem Cell Therapy Applications or (ii) market, promote, Sell or distribute any of the Products (or any product that includes any Product as a component), directly or indirectly, to, or for resale to, any Stem Cell Therapy Customer.

(d) Notwithstanding any provision of this Agreement to the contrary, the Supplier may Sell the Products to its Affiliates for Stem Cell Therapy Applications by such Affiliates, but not for resale to Persons which are not Affiliates of the Supplier, and may make such Sales with a license for use of the Products for Stem Cell Therapy Applications, and the Distributor may Sell the Products to its Affiliates for applications other than Stem Cell Therapy Applications by such Affiliates, but not for resale to Persons which are not Affiliates of the Distributor, and

may make such Sales with a license for use of the Products for applications other than Stem Cell Therapy Applications (such Sales by either the Distributor or the Supplier being "Affiliate Sales"). If the aggregate purchase price received by the Supplier for all its Affiliate Sales during any fiscal year exceeds five percent of the Worldwide Sales during such Fiscal Year, the Supplier shall pay to the Distributor, within 90 days after the end of such Fiscal Year, cash in an amount equal to thirty percent of the excess of such aggregate purchase price over the amount equal to five percent of Worldwide Sales during such fiscal year. If the aggregate purchase price received by the Distributor for all its Affiliate Sales during any calendar year exceeds five percent of the aggregate purchase price received by the Supplier for Sales of the Products during such Fiscal Year to Customers that are not Stem Cell Therapy Customers, the Distributor shall pay to the Supplier, within 90 days after the end of such Fiscal Year, cash in an amount equal to ninety percent of the excess of such aggregate purchase price over the amount equal to five percent of such Sales by the Supplier. All calculations pursuant to this Section 2.03(d) of the aggregate purchase price received by the Supplier or the Distributor shall be made in accordance with the calculation of Worldwide Sales. The Supplier and the Distributor shall, promptly following the end of each fiscal year, make available to each other such information as is reasonably necessary to audit the Affiliate Sales of the other party.

(e) The Supplier expressly reserves the right to market, sell and distribute (either directly or through its designees) (i) the Products to its Affiliates for Stem Cell Therapy Applications as provided in Section 2.03(d), (ii) the Products to any Customer for applications other than Stem Cell Therapy Applications, and (iii) the Supplier's Other Products to any Customer for any application. Except as provided in Section 2.03(d), the Supplier shall sell the Products to Customers that are not Stem Cell Therapy Customers only in conjunction with a license to use the Products solely for applications other than Stem Cell Therapy Applications. The Distributor is not authorized by the Supplier to distribute the Products to any Person other than a Stem Cell Therapy Customer.

(f) The Supplier agrees to appoint the Distributor, and the Distributor agrees to accept appointment, as the Supplier's sole worldwide distributor of any of the Supplier's products that are successors to, or replacements of, the Products and are also Competitive Products (the "Supplier's New Products"). Sales of the Supplier's New Products by the Supplier to the Distributor pursuant to such distribution arrangement shall be at fixed prices and on other terms to be negotiated by the Supplier and the Distributor in good faith, taking into account the terms of this Agreement, as it is in effect at such time, the respective costs of the Supplier and the Distributor in developing, producing and marketing the Supplier's New Products and market conditions at such time.

SECTION 2.02. Relationship; Subdistributors. (a) The Distributor shall conduct its business in the purchase and resale of the Products as a principal for its own account. This Agreement does not in any way create the relationship of principal and agent, partners, joint venturers, master and servant, or any similar relationship, between the Supplier and the Distributor.

(b) The Distributor shall have the right to appoint and to use any independent selling representative, agent, associate distributor or subdistributor who agrees to be bound by all applicable terms of this Agreement (collectively, the "Subdistributors") and who is designated in accordance with
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Market Development Program. The Distributor shall use all reasonable efforts to cause the Subdistributors to comply with their obligations under this Agreement.

(c) The Distributor shall either Sell the Products directly to Stem Cell Therapy Customers (i.e., through the Distributor's own employed sales force) in each of the countries listed below:

Australia	Holland
Austria	Italy
Belgium	Japan
Canada	Spain
France	Switzerland
Germany	United Kingdom

(collectively, the "Direct Sales Countries"; each being a "Direct Sales
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Country"), or make payments to the Supplier in accordance with Section 2.02(e).

(d) The Distributor may Sell the Products to Stem Cell Therapy Customers through Subdistributors, each of whom shall be identified to the Supplier, in countries other than the Direct Sales Countries and the United States.

(e) If the Distributor uses Subdistributors to sell the Products to Stem Cell Therapy Customers in the Direct Sales Countries and the United States, the Distributor shall bear all costs and discounts attributable to the Subdistributor, unless otherwise expressly approved by the Supplier.

SECTION 2.03. Purpose; Development Programs. (a) The Supplier and
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the Distributor each acknowledges that it has entered into this Agreement in order to develop a respected image of the Products among Stem Cell Therapy Customers, to develop the Products so that they can be Sold to Stem Cell Therapy Customers as promptly as practicable and to develop a market for the Products among Stem Cell Therapy Customers, in each case in a manner that maximizes the financial returns to both the Supplier and the Distributor.

(b) As the Supplier's worldwide distributor of the Products for Stem Cell Therapy Applications, the Distributor shall use reasonable best efforts to develop and implement a worldwide plan for marketing and Sales of the Products for Stem Cell Therapy Applications so that the Products will be Sold for Stem Cell Therapy Applications worldwide promptly after such Sales become feasible, the market share of the Products for Stem Cell Therapy Applications will be high and the prices of the Products for Stem Cell Therapy Applications, will be commensurate with the market value of the Products, in each case in a

manner that maximizes the financial returns of both the Distributor and the Supplier.

(c) The Supplier shall use reasonable best efforts promptly to develop and produce Products that are high quality, cost competitive, cost effective for Stem Cell Therapy Customers and capable of achieving widespread acceptance among Stem Cell Therapy Customers, in each case in a manner that maximizes the financial returns of both the Supplier and the Distributor.

(d) To achieve the goals set forth in Sections 2.03(a), (b) and (c), the Supplier and the Distributor have developed the Product Development Program and the Market Development Program, each of which will be designed to comply with the applicable standards of the ISO 9000 Series of the International Standards Organization and will be amended from time to time in accordance with the terms of this Agreement.

(e) The Product Development Program will at all times include the following components (the "Principal Components of the Product Development Program"), together with such other components as the Supplier may deem appropriate:

(i) a plan, which shall include, without limitation, a strategy, a rationale, budgets, tactics, contingency plans and staffing and a projected timetable (collectively, a "Plan") to develop the Products for sale to Stem Cell Therapy Customers;

(ii) a Plan for obtaining (A) the approval of (x) the FDA and any other United States governmental authority necessary for the Sale of the Products to Stem Cell Therapy Customers in the United States and (y) the Underwriter's Laboratory and (B) support for the claims set forth in the Market Development Program;

(iii) the specifications of each Product, including, without limitation, specifications for performance and reliability of each Product and each component thereof;

(iv) a Plan for validating the performance and reliability specifications for the Products set forth in the Product Development Program and the Product claims (including, without limitation, cost effectiveness claims) and service goals set forth in the Market Development Program;

(v) a quality assurance Plan;

(vi) a Plan for manufacturing, or causing the Products to be manufactured, so that the Products can be delivered for sale to Stem Cell Therapy Customers in a manner consistent with the Market Development Program, including, without limitation, (A) specifications of, and a timetable

for, the production capacity to be available for the supply of each of the Products; (B) Plans and leadtimes for the production of prototype, pilot and production models; (C) a Plan for identifying, qualifying, contracting with and auditing third parties for the manufacture of the Products; and (D) Plans for addressing situations in which the Distributor's orders for the Products exceeds the Supplier's capacity to deliver the Products; and

(vii) a Plan for developing enhancements to the Products in response to evolving market needs.

(f) The Market Development Program will at all times include the following components (the "Principal Components of the Market Development Program"), together with such other components as the Distributor may deem appropriate:

(i) a plan, which shall include, without limitation, a strategy, a rationale, budgets, tactics, contingency plans and staffing and a projected timetable (collectively, a "Plan") to obtain all non-U.S. approvals market, sell and distribute the Products to Stem Cell Therapy Customers;

(ii) the targets for average prices of the Products for Sales in the United States, in each Direct Sales Country (expressed in the official currency unit of such Country) and elsewhere outside the United States, including targets for prices to Subdistributors, all subject to approval by Supplier ("Target Prices");

(iii) the Minimum U.S. Selling Price and Minimum Subdistributor Selling Price and the Minimum International Direct Selling Price in each of the Direct Sales Countries (expressed in the official currency unit of such Country) of each of the Products, as approved by the Supplier;

(iv) a mechanism for monitoring the development and growth of the market for the Products;

(v) criteria for targeting Customers and targets for sales volume and market share in each of the countries where the Products are to be sold, all as agreed upon by the Supplier and the Distributor;

(vi) criteria for targeting Customers and targets for sales volume and market share in each of the countries where the Products are to be sold, all as agreed upon by the Supplier and the Distributor;

(vii) a warranty program for the Products, as agreed upon by the Supplier and the Distributor, as well as a program for providing customer service and customer support to Stem Cell Therapy Customers beyond the scope of such warranties;

(viii) a Plan for developing customer relations, Customer contacts, Sales lead follow up and monitoring customer satisfaction with, the Products and, the Distributor's and each Subdistributor's performance;

(ix) a program for the Distributor's training of Stem Cell Therapy Customers and for the Supplier's training of the Distributor's personnel who will provide training to the Distributors' and the Subdistributors' personnel who will provide such training to Stem Cell Therapy Customers and to the Distributor's and the Subdistributors' personnel who will provide customer engineering and customer support to Stem Cell Therapy Customers;

(x) guidelines and procedures for coordinating contacts of Stem Cell Therapy Customers by the Supplier with contacts by the Distributor; and

(xi) a Plan for forecasting demand for the Products by Stem Cell Therapy Customers.

SECTION 2.04. Review of Program and ACL. (a) The Supplier and the Distributor contemplate that the Programs will be amended to address issues that cannot yet be addressed and also will be amended in response to unforeseen events, changes in circumstances and evolving market needs. Accordingly, the Supplier and the Distributor shall meet no more than four times per year to discuss amendments to each of the Programs.

(b) Before the beginning of each Fiscal Year during the term of this Agreement, the Supplier and the Distributor shall mutually establish an annual commitment list (the "ACL"), which shall set forth: (i) the principal commitments and specific objectives that either the Supplier or the Distributor reasonably believes is important to achieve during the next Fiscal Year to accomplish the objectives set forth in Sections 2.03(a), (b) and (c) of this Agreement and to discharge the obligations of the Supplier and the Distributor under the Programs; (ii) those objectives or commitments of either the Supplier or the Distributor that require mutual agreement or coordination between the Distributor and the Supplier; and (iii) any change from the ACL of the preceding year, the Product Development Program or the Market Development Program, in either case that will materially affect either the timing of, or the mechanism for, the development of the Products for, or the delivery and/or marketing of the Products to, Stem Cell Therapy Customers. No provision of the ACL shall be changed, amended, or modified without the prior approval of the Supplier and the Distributor. Each of the Supplier and the Distributor shall use reasonable best efforts diligently to achieve each of the goals and objectives set forth on the ACL. If the Supplier and the Distributor are unable to reach mutual agreement on the inclusion of any commitment or objective on the ACL, then the Supplier and the Distributor will negotiate in good faith for 30 days in an attempt to resolve such disagreement. If the parties are unable to resolve such disagreement during such 30-day period, then either the Supplier or the Distributor may submit such disagreement to arbitration in accordance with Section 10.03. The Parties shall use their reasonable

best efforts to cause such arbitration to result in a decision within 40 days after submission thereto.

(c) In connection with the preparation of the ACL and as otherwise reasonably required, the Market Development Program and the Product Development Program shall, at all times, include each of the Principal Components thereof set forth in Section 2.03 of this Agreement and such other items as are reasonably required to achieve the goals and objectives set forth in Sections 2.03(a), (b) and (c) of this Agreement. The Supplier and the Distributor shall give each other such information as is reasonably necessary to evaluate, and shall give due consideration to the views and recommendations of the other with respect to, all components of each of the Programs. The Product Development Program and the Market Development Program shall include sufficient details to enable the Distributor and the Supplier, respectively, to have a reasonable basis to assess the probability of achieving the goals and objectives set forth in the ACL and in Sections 2.03(a), (b) and (c) of this Agreement. Subject to the right of objection (and resolution of such objection) set forth below, the Supplier shall be free to amend the Product Development Program without the consent of the Distributor, and the Distributor shall be free to amend the Market Development Program without the consent of the Supplier. The Supplier may object to any amendment of, or failure to amend, any Principal Component of the Market Development Program, and the Distributor may object to any amendment of, or failure to amend, any Principal Component of the Product Development Program on the basis (i) that such amendment, or failure to amend, is not reasonably consistent with the goals and objectives set forth in the ACL or Sections 2.03(a), (b) and (c) of this Agreement, or (ii) that, as a result of such amendment, or failure to amend, the parties are not reasonably likely to achieve the goals and objectives embodied in such Principal Component. If the Supplier and the Distributor are unable to agree on a Principal Component of either Program the Supplier and the Distributor, each shall endeavor to resolve the disagreement within such 30-day period. If the Supplier and the Distributor are unable to resolve such disagreement within such 30-day period, either party shall be free to implement the Principal Component in question until such disagreement is resolved, unless the other party reasonably believes that the failure to resolve such disagreement will have an immediate adverse effect on the ability of the parties to implement the goals and objectives set forth in the ACL. In that case, either Party may cause the disagreement to be submitted immediately to arbitration in accordance with Section 10.03, and the Parties shall use their reasonable best efforts to cause such arbitration to be decided within 40 days after submission. If neither Party believes that there will be any such immediate adverse effect, then the Parties will continue to endeavor to resolve the disagreement for an additional period of six months. If the Parties are unable to resolve such disagreement within such six-month period, then the disagreement may be submitted to arbitration in accordance with Section 10.03. The Parties shall use their reasonable best efforts to cause such arbitration to result in a decision within a 40 day period.

(d) A copy of the ACL for the Fiscal Year ending June 30, 1994 is attached hereto as Schedule C.

SECTION 2.05. Annual Customer Review; Change of Use. (a) The parties acknowledge that following the sale of any Product to any Customer, such Customer may subsequently (i) use such Product for applications other than those disclosed to the Supplier or the Distributor prior to such sale or (ii) change its use from Stem Cell Therapy Applications to other applications, or vice versa (a "Change of Use"). Notwithstanding anything in this Agreement to the contrary, the Distributor, or any Subdistributor, shall not be in breach of this Agreement if the Distributor (or such Subdistributor, as the case may be) acts in good faith and uses reasonable best efforts to ensure that it sells Products only to Stem Cell Therapy Customers, even though a Customer's predominant use of a Product may be for applications other than Stem Cell Therapy Applications. Similarly, notwithstanding anything in this Agreement to the contrary, the Supplier or any of its other distributors shall not be in breach of this Agreement if the Supplier (or such other distributor, as the case may be) acts in good faith and uses reasonable best efforts to ensure that it sells Products only to Persons other than Stem Cell Therapy Customers, even though a Person's predominant use of a Product may be for Stem Cell Therapy Applications.

(b) The Supplier and the Distributor shall meet within three months after the end of each Fiscal Year during the term of this Agreement during which sales of the Products are made by either the Distributor, any Subdistributor or the Supplier or any of its other distributors to determine the extent to which the Distributor has sold Products to Customers other than Stem Cell Therapy Customers, the extent to which the Supplier has sold Products to Stem Cell Therapy Customers and the extent to which Customers of the Distributor or the Supplier have effected a Change of Use. At such meeting or meetings, the Distributor shall make available to the Supplier a survey of the Distributor's Customers whose purchases represent at least 80% of the Sales by the Distributor during such Fiscal Year (the "Distributor Customer Service Information"). The Distributor Customer Service Information shall also provide a reasonable estimate of the expected predominant use of the Products by such Customers in the following Fiscal Year. The Supplier shall furnish the Distributor with comparable information regarding the Supplier's Sales of Products to Customers other than Stem Cell Therapy Customers (the "Supplier Customer Service Information"; and, together with the Distributor Customer Service Information, the "Customer Service Information").

(c) If it is determined:

(i) that at the time of the Supplier's Sale of any Equipment to a Customer (other than an Affiliate of the Supplier), the Supplier knew or reasonably should have known that such Customer's intended predominant use of such Equipment was for Stem Cell Therapy Applications, the

Supplier shall pay to the Distributor an amount equal to 40% of all amounts received by the Supplier in payment for such Equipment;

(ii) that a Customer of the Supplier (other than an Affiliate of the Supplier) uses any Disposable purchased from the Supplier for Stem Cell Therapy Applications, the Supplier shall pay to the Distributor an amount equal to 30% of all amounts received by the Supplier as payment for such Disposable;

(iii) that at the time of the Distributor's (or any Subdistributor's) Sale of any Equipment to any Customer (other than an Affiliate), the Distributor (or such Subdistributor) knew or reasonably should have known that such Customer's intended predominant use of such Equipment was not for Stem Cell Therapy Applications, the Distributor (or such Subdistributor) shall pay to the Supplier all amounts received by the Distributor (or such Subdistributor) in payment for such Equipment; and

(iv) that a Customer of the Distributor other than an Affiliate of the Distributor (or any subdistributor) has used any Disposable purchased from the Distributor (or such Subdistributor) for any application other than a Stem Cell Therapy Application, the Distributor (or such Subdistributor) shall pay to the Supplier an amount equal to 90% of all amounts received by the Distributor (or such Subdistributor) in payment for such Disposable.

(d) The Supplier and the Distributor shall make available to each other such information as is reasonably necessary to audit the Sales of the other party described in 2.05(c) above.

(e) If it is determined by the Supplier and the Distributor, based on the Customer Service Information or otherwise, (i) that a Customer of the Supplier has effected a Change of Use, such Customer may be redesignated, at the Supplier's option, as being a Stem Cell Therapy Customer and, accordingly, a Customer that the Distributor will have the responsibility to serve, or (ii) that a Customer of the Distributor has effected a Change of Use, such Customer may be redesignated, at the Distributor's option, as not being a Stem Cell Therapy Customer and, accordingly, a Customer that the Supplier will have the responsibility to serve. Upon any such redesignation, the Supplier and the Distributor shall develop a program that is reasonably acceptable to each party and such Customer for the orderly transition of responsibility for such Customer over a reasonable period of time not to exceed one year.

ARTICLE III

SUPPLIER'S UNDERTAKINGS

SECTION 3.01. Product Development Program; Diligence. The Supplier shall use reasonable best efforts to implement its obligations under the Product Development Program and the Market Development Program diligently.

SECTION 3.02. Product Specifications. The Supplier shall supply the Products in accordance with the product specifications set forth in, and the other applicable provisions of, the Product Development Program and the Market Development Program.

SECTION 3.03. Training by the Supplier. (a) The Supplier shall, in accordance with the provisions of Section 6.2 of Market Development Plan (which provisions may not be changed without the Supplier's approval), provide technical and commercial training with respect to the Products to the Distributor's personnel. To facilitate the Distributor's ability to be self-reliant in providing such training, the Supplier shall provide a license to the Distributor to use such technical information and know-how as the Supplier reasonably believes is necessary for such training. The Supplier shall not charge the Distributor for such training, but all costs incurred by personnel of the Distributor in the course of such training shall be the responsibility of the Distributor.

(b) As reasonably requested in writing by the Distributor, at any time and from time to time, the Supplier shall, at reasonable compensation rates chargeable to the Customer, provide training in applications other than Stem Cell Therapy Applications to the Distributor's Customers who wish to use the Products for applications other than Stem Cell Therapy Applications.

SECTION 3.04. Sole Distributor. Unless this Agreement has been terminated by the Supplier in part in accordance with Section 7.05(b), the Supplier hereby grants (a) the Distributor the right during the term of this Agreement to indicate in appropriate ways (e.g., on its letterhead and billing forms and through signs) that it is the only authorized distributor for the Products to Stem Cell Therapy Customers and (b) any Subdistributor that has been approved by the Supplier the right during the term of this Agreement to indicate in appropriate ways (e.g., on its letterhead and billing forms and through signs) that it is an authorized Subdistributor of the Products to Stem Cell Therapy Customers or that it is the only authorized Subdistributor of the Products to Stem Cell Therapy Customers within a geographic segment.

SECTION 3.05. Enforcement of Intellectual Property Rights. Promptly upon receipt of notice of any infringement or threatened infringement ("Infringement") by third parties of the Supplier's Intellectual Property Rights relating to the Sale of the Products to Stem Cell Therapy Customers ("SCTIP Rights"), the Supplier shall, unless such notice was received pursuant to Section

4.05 hereof, promptly notify the Distributor of any such Infringement, and, as promptly as practicable thereafter, the Supplier and the Distributor shall jointly determine whether to take action to prevent such Infringement and otherwise to enforce the SCTIP Rights (all such actions being "IP Enforcement Actions"). In making such determination, the Supplier and the Distributor shall consider the impact that such Infringement is expected to have on Sales of the Products to Stem Cell Therapy Customers, the likelihood that such IP Enforcement Action will be successful, the expected cost of such IP Enforcement Action, the likelihood that such IP Enforcement Action will result in intellectual property claims against the Supplier or the Distributor ("Retaliatory IP Claims") and the potential impact of any Retaliatory IP Claims on the Supplier and the Distributor. No IP Enforcement Action to enforce the SCTIP Rights will be undertaken without the consent of both the Supplier and the Distributor. If any such IP Enforcement Action is undertaken, the Supplier and the Distributor shall jointly retain a single counsel reasonably satisfactory to each of the Supplier and the Distributor, and all decisions relating to such IP Enforcement Action and the defense of any Retaliatory IP Claims shall be reasonably satisfactory to each of the Supplier and the Distributor. Sixty percent of all costs of prosecuting IP Enforcement Actions relating to SCTIP Rights and defending any Retaliatory IP Claims, including, without limitation, reasonable fees and disbursement of counsel, any reasonable out-of-pocket expenses incurred by the Supplier and the Distributor and any damages awarded against (or amount paid in settlement by) either the Supplier or the Distributor in any Retaliatory IP Claim (all such costs being "IP Enforcement Costs") shall be borne by the Supplier and forty percent of such IP Enforcement Costs shall be borne by the Distributor, unless, and to the extent that, such IP Enforcement Action also benefits the Supplier's Sales of Products to Persons other than Stem Cell Therapy Customers, in which case the Distributor's share of such IP Enforcement Costs shall be reduced proportionally to reflect the benefit derived by each Party. All amounts received by the Supplier and the Distributor, whether as a result of damages awarded, settlement payments or otherwise, as a result of any IP Enforcement Action relating to SCTIP Rights, shall be shared by the Supplier and the Distributor in proportion to their respective share of the IP Enforcement Costs for such IP Enforcement Action.

SECTION 3.06. Manufacturing and Labeling; Product Name; Parts. (a) The Supplier shall manufacture the Products, or cause the Products to be manufactured, in accordance with the Product Development Program. The Supplier's obligation under this Section 3.06 to manufacture the Products shall include the affixing on the Products of labels agreed upon by the Supplier and the Distributor; provided, however, that any costs associated with the labeling of Products with the Distributor's name that would not be incurred but for such labeling will be at the Distributor's expense. The Products shall be labeled as a Product of both the Supplier and the Distributor, with the Distributor's name at least as prominent as the Supplier's name, unless otherwise required by law, in which case the Distributor's name shall be as prominent relative to the Supplier's name as shall be permitted by law.

(b) The Supplier shall have the right to name the Products and shall, in exercising such right, give due consideration to the views and recommendations of the Distributor.

(c) The Supplier shall maintain a stock of Spare Parts for the Products in accordance with the Market Development Program. Spare Parts shall be priced in accordance with Section 5.02(e) of this Agreement.

SECTION 3.07. Regulatory Approvals. (a) At its own expense, the Supplier shall, in accordance with the Product Development Program, use reasonable best efforts diligently to obtain, in the name of the Supplier, all authorizations, consents, orders and approvals of all governmental authorities in the United States that may be or become necessary for the Distributor to sell the Products to Stem Cell Therapy Customers in the United States.

(b) The Supplier shall provide to the Distributor such assistance, including, without limitation, providing at no charge all Products necessary for clinical trials and making any modifications to Products, as the Distributor may reasonably request to obtain the regulatory approvals necessary to sell the Products to Stem Cell Therapy Customers in countries other than the United States specified in the Market Development Program.

SECTION 3.08. Intellectual Property Indemnification. The Supplier agrees to indemnify and hold harmless the Distributor and its Affiliates and all Subdistributors and their affiliates and their respective officers, directors, employees and agents (each such person being a "Supplier Indemnified Person") from and against any losses, claims, damages or liabilities and to reimburse each Indemnified Person for all expenses (including reasonable fees and expenses of counsel) as they are incurred, related to, arising out of or in connection with defending any action, claim, suit, investigation or proceeding (other than a Retaliatory IP Claim) in which a Person other than the Distributor claims or alleges that the sale of the Products by the Distributor to any Stem Cell Therapy Customer conflicts with or infringes on the Intellectual Property Rights of, or other intellectual property owned or licensed by, such Person.

SECTION 3.09. Insurance; Indemnification for Product Liability. (a) The Supplier agrees to obtain an insurance policy or policies (the "Policy") on terms and conditions and in amounts reasonably acceptable to the Distributor covering losses, claims, damages, liabilities or expenses (including reasonable fees and expenses of counsel) incurred by the Supplier related to, or arising out of, any action, claim, suit, investigation or proceeding, in which a Person claims or alleges that any Product distributed by the Distributor pursuant to this Agreement has caused such Person to sustain any personal injury, property damage, wrongful death or any other tortious harm as a result of any manufacturing defect in (including, without limitation, any latent defect in), or any defective design of, or an inadequacy of warnings on, the Products (such

claims or allegations being a "Products Liability Claims"). The Supplier agrees
to use reasonable best efforts to have all Supplier Indemnified Persons named as additional insureds on the Policy, which shall provide that it may not be cancelled without 30 days" notice to the Distributor and that the Distributor shall have the right, but no obligation, to pay any premiums due under the Policy (the "Premiums"). The Policy shall be primary insurance with respect to Product Liability Claims, and any insurance obtained by the Distributor shall be excess insurance. The Parties recognize that the nature of product liability claims and insurance available to cover product liability claims will change over the coming years and will vary from country to country. It is the agreement and goal of the Parties to obtain from time to time such liability insurance which protects both the Supplier and the Distributor to the maximum extent reasonably feasible, at prices which are commercially reasonable. To the extent reasonably feasible, both Parties shall endeavor to use the same counsel to defend both the Supplier and the Distributor in any Products Liability Claim. Both the Supplier and the Distributor shall, to the extent it does not increase its own risk of liability, cooperate with each other in the defense of any Product Liability Claim so as to minimize the risk of any liability to the other party.

(b) The Supplier shall pay all Premiums and any losses, claims, damages or liabilities for Products Liability Claims to the extent not payable under the Policy (such losses, claims, damages, liabilities being "Unreimbursed Losses"), including, without limitation (including reasonable fees and expenses of counsel) any portion of any Unreimbursed Loss the Insurance Carrier is not obligated to pay because of any deductible, self-insured retention or similar provision of the Policy (a "Deductible"). The Supplier shall receive a contribution from the Distributor toward the Premiums and shall share in the satisfaction of any Unreimbursed Losses in accordance with Sections 4.09(b) and (c) hereof.

(c) The Supplier (i) shall not amend, change or cancel the Policy without the consent of the Distributor (which consent shall not unreasonably be withheld) and (ii) shall inform the Distributor in writing in the event that any products other than the Products distributed by the Distributor are covered by the Policy.

(d) The Supplier shall, subject to the limitation set forth in Section 4.09(c), indemnify and hold harmless each Supplier Indemnified Person from and against any Unreimbursed Losses (except Deductibles).

SECTION 3.10. Forecasting Unit Demand. The Supplier and the Distributor shall agree upon a process of unit demand forecasting that meets the needs of the Supplier, the Distributor, and any sub-Suppliers to be used by the Supplier. A mechanism that the Supplier and the Distributor believe is workable is described in the Market Development Program, but both the Supplier and the Distributor recognize that this mechanism must be modified periodically as product and component lead times and delivery mechanisms are better understood by the Supplier and the Distributor.

ARTICLE IV

DISTRIBUTOR'S UNDERTAKINGS

SECTION 4.01. Market Development Program; Diligence. (a) The Distributor shall use reasonable best efforts to implement its obligations under the Market Development Program and the Product Development Program diligently. In performing its obligations under the Market Development Program, the Distributor shall provide to Stem Cell Therapy Customers financing options suitable for the market environment.

(b) Notwithstanding anything in this Agreement to the contrary, if the Distributor identifies to the Supplier potential Stem Cell Therapy Customers in the United States to whom the Distributor reasonably believes it cannot effectively sell the Products, the Supplier may sell the Products to such Stem Cell Therapy Customers, directly, or through a distributor or sales agent (identified to the Distributor) who expressly agrees in writing to be bound by all of the restrictions on sales of the Products which are applicable to the Supplier under this Agreement. Upon the identification of such Stem Cell Therapy Customers by the Distributor to the Supplier, the Distributor shall have no further obligation under this Agreement to attempt to sell Products to such Customers.

SECTION 4.02. Training by the Distributor. (a) The Distributor shall, in accordance with the Market Development Program, provide commercial and technical training with respect to the Products to its, and the Subdistributors' personnel who will provide training, customer service and support to Stem Cell Therapy Customers.

(b) As reasonably requested in writing by the Supplier, at any time and from time to time, the Distributor shall, at reasonable compensation rates chargeable to the customer, provide training in Stem Cell Therapy Applications to the Supplier's Customers who wish to use the Products for such applications.

SECTION 4.03. Advertising. The Distributor and each Subdistributor shall submit to the Supplier, prior to its use by the Distributor or such Subdistributor, all advertising copy concerning the Products and shall not use such copy without the consent of the Supplier (which shall not be unreasonably withheld); provided, however, that in no event shall the Supplier have any obligation to share in advertising or other promotional costs incurred by the Distributor or Subdistributor.

SECTION 4.04. Warranties; Service. (a) The Distributor and each Subdistributor shall extend warranties, which in accordance with the Market Development Program, shall be mutually approved by the Supplier and the Distributor, and perform warranty service on the Products sold to Stem Cell

Therapy Customers by the Distributor or any such Subdistributor, as the case may be.

(b) The Monthly Purchase Price shall be reduced in accordance with Section 5.02 by an amount equal to the costs reasonably incurred by the Distributor in providing warranty service to Stem Cell Therapy Customers in accordance with the Market Development Program. Any costs incurred by the Distributor or any Subdistributor in providing extended warranty or maintenance service beyond the standard warranty period provided in the Market Development Program shall be borne solely by the Distributor or such Subdistributor.

(c) The Distributor and each Subdistributor shall, in accordance with the Market Development Program, provide service and customer support for the Products to Stem Cell Therapy Customers which have purchased Products from the Distributor or such Subdistributor, as the case may be. The provision of such service and support shall be priced so as not to be a disincentive to Stem Cell Therapy Customers to purchase the Products.

(d) The Supplier shall assist the Distributor in providing warranty service and other services to Stem Cell Therapy Customers, as reasonably requested by the Distributor, at prices or rates to be negotiated in good faith by the Supplier and the Distributor.

SECTION 4.05. Notice of Infringement. The Distributor and each Subdistributor shall promptly notify the Supplier in writing if it becomes aware of any infringement or threatened infringement of any SCTIP Rights.

SECTION 4.06. License. The Distributor hereby grants to the Supplier a license to the Distributor's trademarks and trade names specified in the Market Development Program for the sole purpose of the Supplier's affixing of such trademarks and trade names to the Products sold to the Distributor pursuant to this Distribution Agreement and the packaging for the Products as contemplated in Section 3.06(a) hereof.

SECTION 4.07. Regulatory Approvals. (a) At its own expense, the Distributor shall use reasonable best efforts diligently to obtain, in the Supplier's name and the Distributor's name (a "Joint Registration"), all authorizations, consents, orders and approvals of all non-U.S. governmental authorities, and to complete clinical trials, that may be or become necessary to sell the Products to Stem Cell Therapy Customers in the countries other than the United States specified in the Market Development Program; provided, however, that if the law of one of such countries prohibits or otherwise restricts such Joint Registration, the Distributor shall use reasonable best efforts to obtain such Joint Registration to the extent permitted by such law and otherwise shall use reasonable best efforts to obtain such registrations in the Distributor's name. The Distributor shall be responsible for the cost of all clinical trials (other than the cost of the

Products required for such trial, which shall be provided by the Supplier at no charge) necessary to obtain such non-U.S. approvals.

(b) If this Agreement is terminated in its entirety or with respect to any country other than the United States, the Distributor shall use reasonable best efforts to provide information on clinical trials and such other information (other than confidential business information) as is reasonably necessary to enable the Supplier to obtain registration in its name in such country.

SECTION 4.08. Competitive Products. (a) In order to fulfill its obligations with respect to promoting the Sale of the Products, except as provided in Section 4.10 of this Agreement, the Distributor and its Affiliates shall not, and shall not attempt to, Sell, directly or indirectly, to any Stem Cell Therapy Customer any Competitive Product for Stem Cell Therapy Applications, other than the Distributor's Products and other products that are sold by the Distributor as an adjunct or complement to the Products; provided, however, this prohibition shall not apply to the Sale of Competitive Products in any geographical area with respect to which this Agreement has been terminated or in which a Co-Marketing Arrangement has been established.

(b) Unless otherwise agreed by the Supplier, each Subdistributor shall agree to be bound by this Section 4.08 prior to the Sale of the Products to such Subdistributor.

SECTION 4.09. Insurance. (a) To assist the Supplier in satisfying its obligation set forth in Section 3.09(a) hereof to obtain the Policy, the Distributor shall recommend the Supplier to the Distributor's insurance carrier, it being understood that such obligations do not depend on the responsiveness of such carrier.

(b) Within 30 days after the Distributor's receipt of reasonably satisfactory evidence of the payment of the Premium, the Distributor shall pay to the Supplier 40% of the Premium, 40% of amounts which the Supplier is obligated to bear as a Deductible, and 40% of the Unreimbursed Losses; provided, however, that the Distributor's obligation to pay the Premium and the Deductible and the Unreimbursed Losses for the fifth Fiscal Year following the first Fiscal Year in which the Supplier first purchases products liability insurance (such year being the "Sixth Insurance Year") and each year thereafter shall not exceed 0.4% of Worldwide Sales during such Fiscal Year (such amount being the "Products Liability Cap"); and, provided further, that if the Policy at any time covers products other than the Products distributed by the Distributor pursuant to this Agreement, the Premiums, the Deductibles and the Unreimbursed Losses payable to the Supplier by the Distributor shall be reduced to a percentage equal to 40% multiplied by the percentage of the Supplier's total revenues that is represented by revenues received by the Supplier for Sales of the products by the Distributor pursuant to this Agreement.

(c) If the aggregate unreimbursed amounts paid by the Supplier during any Fiscal Year with respect to Product Liability Claims, including amounts of Premiums, Deductibles and Unreimbursed Losses that are not reimbursed by the Distributor under this Section 4.09 (the "Supplier Products Liability Payments") exceeds 60% (subject to upward adjustment in accordance with the second proviso of Section 4.09(b)) of the aggregate amounts paid with respect to such liabilities, and the Products Liability Cap for such Fiscal Year exceeds the sum of the aggregate amounts paid by the Distributor to the Supplier under Section 4.09(b) for such Fiscal Year that are paid by the Distributor and not reimbursed by the Supplier, then the Distributor shall pay to the Supplier the amount of such excess (the "Excess Payments"). The Distributor shall make Excess Payments in each Fiscal Year until the sum of the Excess Payments in such Fiscal Year and all preceding Fiscal Years beginning with the Sixth Insurance Year is equal to the Supplier Deficiency in that Fiscal Year and all preceding Fiscal Years beginning with the Sixth Insurance Year. The "Supplier Deficiency" for any Fiscal Year shall be equal to the excess of the actual amount of the Products Liability Payments for such Fiscal Year over the amount that such Products Liability Payments would have been but for the Products Liability Cap.

SECTION 4.10. Solutions and Growth Medium. Notwithstanding any other provision in this Agreement to the contrary, if it is in the Customers' best interests or if sale of the Growth Medium or Solutions is prohibited by local law or regulation or otherwise is commercially impracticable, the Distributor may obtain Solutions and Growth Medium from a source other than the Supplier and sell such other Solutions and Growth Medium to any Stem Cell Therapy Customer. If the Distributor makes any such Sales to Stem Cell Therapy Customers, the Distributor shall pay to the Supplier, in those cases in which the use of such other Solutions or Growth Medium is prohibited by law or otherwise is commercially impracticable, an amount equal to the lesser of: (a) a royalty equal to 10% of the Distributor's net selling price of such sales and (b) an amount equal to 60% of the Distributor's gross margin realized on such sales of the Solutions and/or Growth Medium (said 60% amount being defined as the "Supplier's Share"), and, in those cases in which the use of such other Solutions or Growth Medium is legally or practically required, the Supplier's Share. Such payments shall be made by the Distributor to the Supplier within 30 days following the month in which the sale occurred.

SECTION 4.11. Information Concerning Pricing. (a) The Distributor shall provide to the Supplier the following information regarding the prices at which Products are Sold by the Distributor to Stem Cell Therapy Customers pursuant to this Agreement (the "Pricing Information"): the average, highest and lowest selling prices of each of the Products (specified by catalogue number) in each country and to each Subdistributor. The Supplier and the Distributor shall review the Pricing Information at least once a year. In light of such Pricing Information, the Supplier and the Distributor annually shall (i) agree to Target Prices, the Minimum U.S. Selling Price, the Minimum Subdistributor Selling Price and the Minimum Direct International Selling Price in each of the Direct Sales

Countries for each of the Products and (ii) develop goals and objectives to be included in the ACL for such year to maximize the financial returns of both the Supplier and the Distributor.

(b) The Supplier and the Distributor each shall endeavor in good faith to establish, within three years after the payment of the latter of the Milestone Fees, fixed prices (which shall be revised and adjusted annually) at which the Supplier shall Sell Products to the Distributor pursuant to this Agreement, it being recognized, however that neither party shall be obligated to agree to fixed pricing unless the party determines it to be in its own best interests. Once such prices are established, they shall replace the pricing formulae set forth below in Section 5.02 and shall be consistent with the following goals and objectives: (i) to price the Products to maximize their value; (ii) to share mutually in the revenues and benefits from Sales of the Products; and (iii) to exchange openly information regarding Sales prices and production costs.

(c) Notwithstanding anything in this Agreement to the contrary, the Distributor's obligations under Sections 2.03(a) and (b) and Section 4.01 shall not require the Distributor to make any Sales of Products, which, in the judgment of the Distributor, are reasonably likely to cause the Average U.S. Selling Price, the Average International Direct Selling Price in any Direct Sales Country and the Average Subdistributor Selling Price to be less than the Minimum U.S. Selling Price, or the Minimum International Direct Selling Price in such Direct Sales Country and the Minimum Subdistributor Selling Price, respectively, during the month in which such Sales otherwise would be made.

SECTION 4.12. Indemnification for Product Liability. The Distributor agrees to indemnify and hold harmless the Supplier and its Affiliates and their respective officers, directors, employees and agents (each such person being a "Distributor Indemnified Person") from and against any losses, claims, damages or liabilities not subject to the Policy and to reimburse each Distributor Indemnified Person for all expenses (including reasonable fees and expenses of counsel) not subject to the Policy as they are incurred, related to, arising out of or in connection with defending any action, claim, suit, investigation or proceeding in which a Person claims or alleges that the claims made beyond those in the Market Development Program, or the training, service or repair undertaken, by the Distributor, or such Subdistributor, with respect to the Products has caused such Person to sustain any personal injury, property damage, wrongful death or any other tortious harm.

ARTICLE V

DISTRIBUTOR PURCHASES OF THE PRODUCTS

SECTION 5.01. Orders. Orders for Products placed by the Distributor shall conform to, and shall be filled in accordance with, the Programs.

SECTION 5.02. Purchase Price; Periodic Adjustments. (a) The aggregate purchase price to be paid to the Supplier by the Distributor for U.S. Products Sold during any calendar month (the "U.S. Monthly Purchase Price") shall be calculated according to the following formula:

*

where "P" is the U.S. Monthly Purchase Price, "SP" is the aggregate of the Actual U.S. Sales Amount for each of the Products during such calendar month, "DS" is the Deemed U.S. Sales Amount during such calendar month, "U" is the aggregate dollar amount of Upcharges included in the selling price of the Actual U.S. Sales Amount during such calendar month, "F" is the applicable aggregate unreimbursed freight and handling charges for the Actual U.S. Sales, the Deemed U.S. Sales and the Purchased Spare Parts used for warranty service provided in accordance with the Programs during such calendar month borne by the Distributor, "R" is the aggregate amount credited by the Distributor during such calendar month for returns of U.S. Products as reflected in the applicable credit invoices, "W" is the Distributor"s cost of providing warranty service during such calendar month (i.e., travel and other out-of-pocket expenses and cost of warranty service at applicable hourly rates, but excluding the cost of Purchased Spare Parts) to Stem Cell Therapy Customers in the United States pursuant to, and in accordance with, Section 4.04(a), all as reflected in the relevant Monthly Report, and "X" is * (or, if 5.02(d) is applicable, *

(b) The aggregate purchase price to be paid to the Supplier by the Distributor for Subdistributor Products Sold during any calendar month (the "Subdistributor Monthly Purchase Price") shall be calculated according to the following formula:

*

where "P" is the Subdistributor Monthly Purchase Price, "SP" is the aggregate of the Actual Subdistributor Sales Amounts for each of the Products during such calendar month, "DS" is the Deemed Subdistributor Sales Amount during such calendar month, "U" is the aggregate dollar amount of Upcharges included in the selling price of the Actual

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Subdistributor Sales Amount during such calendar month, "F" is the applicable aggregate unreimbursed freight and handling charges for the Actual Subdistributor Sales and the Deemed Subdistributor Sales and the Purchased Spare Parts used for warranty service for Subdistributor Products provided in accordance with the Programs during such calendar month borne by the Distributor, "R" is the aggregate amount credited by the Distributor during such calendar month for returns of Subdistributor Products as reflected in the applicable credit invoices, "W" is the Distributor"s cost of providing warranty service on Subdistributor Products during such calendar month (i.e., travel and other out-of-pocket expenses and cost of warranty service at applicable hourly rates, but excluding the cost of Purchased Spare Parts) to Stem Cell Therapy Customers outside of the United States pursuant to, and in accordance with, Section 4.04(a), and "X" is *

(c) The aggregate purchase price to be paid to the Supplier by the Distributor for International Direct Products Sold in each Direct Sales Country during any calendar month (the "International Direct Monthly Purchase Price") shall be calculated according to the following formula:

*

where "P" is the International Direct Monthly Purchase Price, "SP" is the aggregate of the Actual International Direct Sales Amount for each of the Products in such Country during such calendar month, "DS" is the Deemed International Direct Sales Amount in such Country during such calendar month, "U" is the aggregate dollar amount of Upcharges included in the selling price of the Actual International Direct Sales Amount during such calendar month, "F" is the applicable aggregate unreimbursed freight and handling charges for the Actual International Direct Sales in such Country, the Deemed International Direct Sales and the Purchased Spare Parts used for warranty service provided in such Country in accordance with the Programs during such calendar month borne by the Distributor, "R" is the aggregate amount credited by the Distributor during such calendar month for returns of International Direct Products in such Country as reflected in the applicable credit invoices, "W" is the Distributor's cost of providing warranty service on International Direct Products in such Country during such calendar month (i.e., travel and other out-of-pocket expenses and cost of warranty service at applicable hourly rates, but excluding the cost of Purchased Spare Parts) to Stem Cell Therapy Customers in such Direct Sales Country pursuant to, and in accordance with, Section 4.04(a), all as reflected in the relevant Monthly Report, and "X" is * The International Direct Monthly Purchase Price for each Direct Sales Country shall be converted

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from the official currency unit of such Country into U.S. dollars at the Exchange Rate for the month in which the Sales represented by such International Direct Monthly Purchase Price were made.

(d) If Worldwide Sales exceed the Sales Threshold in any Fiscal Year, then the U.S. Monthly Purchase Price for all Sales in excess of such threshold shall be calculated based upon the formula in subsection 5.02(a) above, except that "X" shall equal *

(e) The aggregate purchase price (the "Monthly Parts Purchase Price") to be paid to the Supplier by the Distributor for Spare Parts purchased by the Distributor, whether purchased for a warranty service in accordance with Section 4.04(a) or otherwise (the "Purchased Spare Parts"), in any calendar month, shall be calculated according to the following formula:

*

where "P" is the Monthly Parts Purchase Price, "C" is the Supplier's cost of producing such Purchased Spare Parts, "R" is the aggregate price paid by the Distributor to the Supplier for the Spare Parts returned by Stem Cell Therapy Customers during such calendar month and the freight paid the Distributor with respect to such returns, "WC" is the purchase price paid to the Supplier by the Distributor for Spare Parts used for warranty service provided in such month by the Distributor to Stem Cell Therapy Customers pursuant to, and in accordance with, Section 4.04(a).

SECTION 5.03. Monthly Report; Monthly Payment; Distributor Fee. (a) Within thirty days after the end of each calendar month, the Distributor shall prepare and deliver to the Supplier a report (the "Monthly Report") stating, among other things, the aggregate amount of Worldwide Sales, specifying sales by the Distributor of U.S. Products and International Products during such month. At the time of delivery of the monthly report, the Distributor shall pay the Monthly Purchase Price. The Distributor shall assume responsibility for all amounts that become uncollectible from its Customers and any collection costs incurred in pursuit of such amounts.

(b) Within five business days after the Distributor's first issuance of an invoice (or invoices) evidencing that the Complete System Sale has occurred, the Distributor shall pay to the Supplier a fee of $3 Million.

(c) Within thirty business days after final written approval by the FDA of the Products for Sales in the United States for any clinical indications for Stem Cell Therapy Applications, the Distributor shall pay to the Supplier a fee of $2 Million (together with the fees specified in Section 5.03(b), the "Milestone Fees").

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SECTION 5.04. Deliveries. The Supplier shall deliver the Products in accordance with each firm order by the Distributor. Unless otherwise agreed by the Supplier and the Distributor, delivery shall be F.O.B. at the Supplier's place of manufacture ("ex works"). Title to the Products Sold to the Distributor by the Supplier pursuant to this Agreement shall pass from the Supplier to the Distributor upon the Distributor's acceptance of the Products at the Supplier's place of manufacture. All of the costs of transportation (including insurance) shall be borne by the Distributor and included in "F" in the formulae set forth in Section 5.02 above.

ARTICLE VI

TRADEMARKS AND TRADE NAMES

SECTION 6.01. License. To the extent permitted by law, the Supplier hereby grants to the Distributor and each Subdistributor a license and right to use during the existence of this Agreement any trademark and trade name of the Supplier associated with the Products for the sole purpose of Selling, and promoting the Sale of, the Products in accordance with this Agreement. The Distributor shall take no steps to register the Supplier's trademarks or trade names.

SECTION 6.02. Licenses to Third Parties. The Supplier shall not grant to any person other than the Distributor a right or license to use during the term of this Agreement any trademark or trade name of the Supplier for the purpose of Selling, or promoting the Sale of, the Products to Stem Cell Therapy Customers unless the Supplier has established a Co-Marketing Arrangement in accordance with Section 7.05(b).

SECTION 6.03. Effect of Use. Any trademarks and trade names licensed to the Distributor hereunder are, and shall remain the exclusive property of, the Supplier, and nothing contained herein shall grant or be construed as granting to the Distributor any right, title or interest in the Supplier's trademark or trade name not specifically set forth in Section 6.01. Any trade names or trademarks developed for the Products during the term of this Agreement shall be owned solely by the Supplier, but shall be licensed to the Distributor in accordance with Section 6.01.

SECTION 6.04. Cessation of Use. Upon the later of expiration or termination of this Agreement or the license rights granted to the Distributor pursuant to Section 7.07 hereof, the Distributor shall forthwith cease any and all use of, and shall not use or have any right to use, any trademark or trade name of the Supplier licensed to the Distributor hereunder.

ARTICLE VII

TERM; TERMINATION

SECTION 7.01. Term. Unless earlier terminated pursuant to Section 7.02 hereof, the term of this Agreement shall commence on the date first above written and end on October 22, 2003 (the "Base Term"). At the end of the Base Term, the Distributor shall have the option to renew this Agreement for one additional ten-year period, which, except as otherwise specifically provided in this Section 7.01, shall be upon the terms and conditions in effect at the expiration of the Base Term. The Distributor may exercise this option by providing written notice to the Supplier not less than 365 days prior to the expiration of the Base Term. At the end of such additional ten-year term, the parties may extend this Agreement for a subsequent ten-year period only by mutual agreement.

SECTION 7.02. Notice of Breach. If the Supplier has materially breached its obligations under this Agreement, the Distributor shall deliver to the Supplier written notice of such breach (the "Distributor's Notice of Breach"). If the Distributor has materially breached its obligations under this Agreement, the Supplier shall deliver to the Distributor written notice of such breach (the "Supplier's Notice of Breach"; and, together with the Distributor's Notice of Breach, a "Notice of Breach"). Any Notice of Breach shall describe such breach in reasonable detail.

SECTION 7.03. Cure Period. If the alleged breach by the Supplier or the Distributor can be cured by the payment of money (a "Monetary Breach"), the breaching Party may cure such Monetary Breach at any time within ten days after the existence of the Monetary Breach and the amount owed has been established. If the breach is not a Monetary Breach and reasonably can be cured within thirty days, then the breaching Party may cure the breach within thirty days after delivery of the Notice of Breach. If the breach is not a Monetary Breach and reasonably cannot be cured within thirty days, then the breaching Party may submit to the nonbreaching Party within thirty days after delivery of the Notice of Breach a written plan to effect a cure as soon as reasonably practicable, but in any event within one year following the receipt of the Notice of Breach from the nonbreaching party, and the breaching Party shall diligently, promptly and continuously pursue such plan until the breach has been cured.

SECTION 7.04. Objection; Negotiation. (a) If either Party disputes an assertion by the other Party that it has materially breached this Agreement, as specified in any Notice of Breach, then the allegedly breaching Party may, in lieu of proceeding with a remedy of such alleged breach, deliver to the other Party a written objection (the "Objection") within fifteen days after receipt of the Notice of Breach. Any Objection shall set forth in reasonable detail the basis for the objection to the breach alleged in the Notice of Breach.

(b) For a period of up to thirty days after the delivery of the Objection, the Parties shall pursue good faith negotiations to attempt to resolve mutually the Parties' differences concerning the Notice of Breach and the Objection. If the Parties have not reached a mutually satisfactory resolution within said thirty days, then either Party may submit the matter for resolution by binding arbitration pursuant to Section 10.03.

SECTION 7.05. Remedy; Partial Termination; Termination Upon Bankruptcy. (a) If the Supplier fails to cure any material breach within the time periods specified in Section 7.03 above, the Distributor may terminate this Agreement.

(b) If the Distributor fails to cure any material breach within the time periods specified in Section 7.03 above, the Supplier may terminate this Agreement, and the Distributor's right to act as the Distributor, on a worldwide basis, or with respect to specific geographic areas, or the Supplier may permit the Distributor to continue to act as a distributor of the Products but may appoint other distributors of the Products or the Supplier may distribute the Products itself, in each case either on a worldwide basis or with respect to one or more geographic areas (such arrangement being a "Co-Marketing Arrangement"). If the Supplier exercises its right under this Section 7.05(b) to establish a Co-Marketing Arrangement, the prices to be paid to the Supplier by the Distributor for the Products distributed by the Distributor in each geographic area in which a Co-Marketing Arrangement is established shall be fair and reasonable fixed prices for each of the Products determined in good faith negotiations by the Supplier and the Distributor, based upon the amounts paid to the Supplier by the Distributor for each of the Products during the period preceding such termination, which prices shall then be renegotiated annually based upon then current market conditions. Effective one year after delivering written notice to the other Party, either Party may terminate the Distributor's right to Sell in countries where a Co-Marketing Arrangement has been established.

(c) This Agreement shall terminate immediately upon written notice by either party to the other (i) in the event that a bankruptcy petition is filed with respect to the party notified pursuant to this subparagraph or (ii) in the event that the party notified pursuant to this subparagraph (A) becomes insolvent; (B) is adjudicated as a bankrupt pursuant to an involuntary petition in bankruptcy; (C) suffers appointment of a temporary or permanent receiver, trustee or custodian for its business or for all or part of its assets, where such appointment is not discharged within thirty days; (D) makes an assignment for the benefit of creditors; (E) is admitted to the benefits of any procedure for the settlement or postponement of debts; (F) becomes a party to dissolution proceedings; or (G) takes any corporate action with respect to any of the foregoing.

(d) The Distributor may terminate this Agreement upon twelve months' advance written notice to the Supplier in the event that any Person other than the Distributor during the term of this Agreement beneficially owns more than 50 percent (measured either by value or voting rights) of the outstanding Common Stock or voting securities of the Supplier.

(e) The Distributor may terminate this Agreement at any time after December 31, 1997 if it reasonably determines that the Supplier is unlikely to be able to produce Products that can be sold to Stem Cell Therapy Customers on a competitive basis on or prior to December 31, 1998. The Supplier may terminate this Agreement at any time after the second anniversary of the payment of the later of the Milestone Fees if the Supplier reasonably determines, taking into account the fact that there is no established market for the Products, that the Distributor is unlikely to be able to develop a market for the Products among, or to market the Products effectively to, Stem Cell Therapy Customers.

SECTION 7.06. Other Remedies. In the event of a breach of this Agreement, the nonbreaching Party shall be entitled to pursue, in addition to the remedies specified in this Article VII, any and all equitable or legal remedies available to it as a result of the breach, through the arbitration proceeding or the limited court actions as permitted by Section 10.03. If either Party elects to terminate this Agreement in accordance with this Article VII, such termination shall not preclude the nonbreaching Party from pursuing such additional remedies and collecting any damages to which the nonbreaching Party may be entitled.

SECTION 7.07. Effect of Termination by Distributor. (a) In the event that the Distributor terminates this Agreement in accordance with Section 7.05(a) hereof, and the Distributor has paid all of the Milestone Fees, then the Supplier shall (i) grant to the Distributor, effective upon notice by the Distributor to the Supplier following such termination, a non-exclusive perpetual license with no rights to grant a sublicense (other than a sublicense to manufacture) (the "License") of all patents and other intellectual property necessary or useful to manufacture, use, market and sell the Products to Stem Cell Therapy Customers solely for the use, manufacture, marketing and sale of the Products for Stem Cell Therapy Applications and (ii) provide to the Distributor all technical or other information relating to the processes covered by the License. In addition, the Distributor shall, if requested by the Supplier, manufacture products for the Supplier's use and sale that are similar to the Products sold in the Stem Cell Therapy Market. The prices to be paid to the Distributor by the Supplier for the Products manufactured by the Distributor shall be fixed prices for each of the Products, based upon the amounts paid to the Supplier by the Distributor for each of the Products during the period preceding such termination, as negotiated in good faith by the Distributor and the Supplier. Such negotiated prices shall be applicable for one year, and shall be renegotiated and redetermined annually based upon the then current market conditions.

(b) Under the License, the Distributor shall pay to the Supplier on a monthly basis a royalty fee equal to 15% of the sales price to Customers (net of freight, delivery and returns) for Products sold during each month using such License, subject to reduction for any amounts payable by the Distributor to any third party pursuant to any agreement between the Supplier and such third party with respect to any Intellectual Property Rights granted to the Distributor under the License.

(c) The License shall not affect any other right or remedy of the Distributor arising from the Supplier's nonperformance of this Agreement.

SECTION 7.08. Attorneys' Fees and Costs. In the event of any arbitration or court proceedings with respect to a breach, an alleged breach, a dispute as to the interpretation of this Agreement, or any other dispute concerning this Agreement, the Party who most prevails in such proceedings shall be entitled to recover from the other Party the reasonable attorneys' fees and other reasonable costs incurred by the prevailing Party in connection with such proceedings, in such amounts as the arbitrator or the court deems appropriate and fair. The arbitrator in such arbitration proceedings shall determine the prevailing Party, and the amount of attorneys' fees and other costs to be paid by the other Party to the prevailing Party.

SECTION 7.09. Interest. If a Party fails to pay any amount when due, such amount shall thereafter bear interest until such amount, together with such interest, is paid in full at a rate equal to the rate announced from time to time by Citibank as its base rate of interest plus two percent.

SECTION 7.10. Transition Upon Termination. (a) Upon any termination of this Agreement, in whole or in part, the Distributor and the Supplier each shall use reasonable and good faith efforts to accomplish an orderly transition of marketing responsibilities, from the Distributor to the Supplier (or the Supplier's designee).

(b) If this Agreement is terminated the Distributor shall make available to the Supplier (i) a list of each Customer and Subdistributor which purchased Equipment from the Distributor, identifying the Equipment purchased by each such Customer and Subdistributor, (ii) a list of each Customer and Subdistributor which purchased Disposables during the 24 calendar months immediately preceding such termination, identifying the types and quantities of Disposables purchased by each such Customer and Subdistributor during the last 24 months, and (iii) a copy of each customer record of service performed within the last 24 calendar months for the Customers listed in subparagraphs (i) and (ii) above. Notwithstanding the foregoing, however, if the Supplier establishes a Co-Marketing Arrangement pursuant to Section 7.05(b) pursuant to which the Distributor is allowed to continue to distribute Products in one or more specific geographical areas, then the Distributor shall not

be required to furnish to the Supplier the foregoing lists and records for such geographical areas.

ARTICLE VIII

CONFIDENTIALITY

SECTION 8.01. Confidentiality. (a) The Distributor and the Supplier agree to keep secret and not to disclose to any third party any Confidential Information of the other that may from time to time be received from the other party in connection with the transactions contemplated by this Agreement; provided, however, that the Distributor may disclose such information to its Affiliates. The Confidential Information exchanged by the parties in connection with this Agreement shall not be used by the receiving party for any purpose other than for purposes of carrying out this Agreement during its term. The Supplier may disclose the Distributor's Confidential Information to the Supplier's employees and agents to the extent necessary to enable such employees and agents to perform the Supplier's responsibilities under this Agreement, and the Distributor may disclose the Supplier's Confidential Information to the Distributor's employees and agents and the Distributor's Subdistributors and their employees and agents to enable (i) such employees and agents to perform the Supplier's responsibilities under the Agreement and (ii) such Subdistributors to the extent necessary to assist the Distributor in the performance of its obligations under this Agreement.

(b) The foregoing confidentiality obligations are subject to an exception for any disclosure that becomes legally required by subpoena or other legal process; provided, however, that the Party who so becomes legally obligated shall give written notice to the other Party of such required disclosure as promptly as practicable after the Party becomes aware of such disclosure requirements.

SECTION 8.02. Survival of Covenants to Keep Secret. The parties' obligations under this Article VIII shall survive expiration or termination of this Agreement.

SECTION 8.03. No License. Except as otherwise provided in this Agreement, nothing in this Agreement shall be construed to constitute a grant of any licensing rights from the Supplier to the Distributor to make the Products or to use the Products (other than a demonstration use for marketing to potential customers).

ARTICLE IX

FORCE MAJEURE

SECTION 9.01. Force Majeure. (a) If either party is rendered unable, in whole or in part, to carry out its obligations under this Agreement by reason of force majeure, and if such party gives prompt written notice to the other party describing the details giving rise to such party's claim of force majeure, then the party claiming force majeure shall be excused from performing its obligations hereunder, but only for so long as that party remains unable by reason of force majeure so to perform. Such cause of the party's inability to perform shall be remedied to the extent possible with all reasonable speed. As used herein, force majeure means Acts of God, labor disputes, acts of public enemies, wars, blockades, insurrections, riots, epidemics, quarantine restrictions, landslide, lightning, earthquakes, fires, storms, floods, washouts, arrests, restraints of rulers and people, civil disturbances, acts of any governmental or local authority, inability to obtain transport or supplies for any reason, and other acts that are not within the control of the party claiming excuse from performance and that could not have been avoided or overcome by such party using due diligence. The lack of financial resources shall not constitute force majeure.

(b) If any event of force majeure materially impairs the Distributor's ability to sell the Products or the Supplier's ability to manufacture the Product, then during the pendency of that force majeure event, the Supplier may sell the Products or the Distributor may manufacture the Products (as the case may be) that would otherwise have been sold by the Distributor or manufactured by the Supplier, but for the force majeure event.

ARTICLE X

MISCELLANEOUS PROVISIONS

SECTION 10.01. Amendment; Alteration. No amendment, change, alteration, modification of, or addition to, this Agreement shall be effective unless in writing and properly executed by each of the parties hereto.

SECTION 10.02. Notice. All notices, requests, claims, demands, waivers and other communications hereunder shall be in writing (including telecopier or facsimile or similar writing) and shall be given or made (and shall be deemed to have been duly given or made upon receipt) if delivered in person,

by courier service, by cable, telegram, telex, telecopier or facsimile or by registered or certified mail (postage prepaid, return receipt requested) as follows:

(a) if to the Distributor:

Cobe BCT, Inc.
1185 Oak Street
Lakewood, CO 80215
Telecopy: 303-231-4160
Attention: Edward Wood

(b) if to the Supplier:

Aastrom Biosciences, Inc.
(Mail: P.O. Box 376)
Ann Arbor, MI 48105
(Direct Delivery:
Dominos Farms, Lobby L)
Telecopy: 313-665-0485
Attention: R. Douglas Armstrong, PhD
President and
Chief Executive Officer

or to such other address as either party may have furnished to the other in writing in accordance herewith. All notices, requests, claims, demands, waivers and other communications hereunder shall be deemed to have been received on the date of personal delivery, cable, telegram, telex, telecopier (with copy by mail) or facsimile transmission (with copy by mail), or on the fifth business day (or, in the case of international post, on the fifteenth business day) after the mailing thereof, except that notices of changes of address shall be effective only upon receipt.

SECTION 10.03. Arbitration. All claims and disputes relating to this Agreement shall be subject to binding arbitration, at the option of the Supplier or the Distributor, in Chicago, Illinois in accordance with the Arbitration Rules of the American Arbitration Association. Written notice of demand for arbitration shall be filed with the other party to this Agreement and with the American Arbitration Association within a reasonable time after the dispute has arisen. Any award or decision rendered in such arbitration process may be entered as a judgement against a Party in any court of competent jurisdiction over the Party. Nothing in this Section shall limit either the Supplier's or the Distributor's right to obtain a preliminary injunction or temporary restraining order pertaining or relating to an arbitrable dispute or controversy against the other party, pending resolution of said dispute or controversy by the arbitration process. The Distributor and the Supplier hereby irrevocably submit to the jurisdiction of any state or federal court in Michigan or Colorado in any action or proceeding arising out of or relating to this Agreement or any other agreement or transaction

contemplated hereby, or any arbitration award or decision arising from this Agreement. The Distributor and the Supplier hereby irrevocably waive, to the fullest extent they may effectively do so, the defense of an inconvenient forum to the maintenance of such action or proceeding.

SECTION 10.04. Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York applicable to contracts executed in and to be performed entirely within that state.

SECTION 10.05. Waiver. Either party hereto may waive compliance with any of, or extend the time for performance of, the agreements contained herein. Any such waiver or extension shall be valid if set forth in an instrument in writing signed by the party to be bound thereby. The failure of either party to assert any of its rights hereunder shall not constitute a waiver of any such rights.

SECTION 10.06. Entire Agreement; Assignment. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements and undertakings, both written and oral, between the parties with respect to the subject matter hereof. This Agreement shall not be assigned by operation of law or otherwise, other than by the Distributor to its Affiliates, without the express written consent of the Distributor and the Supplier (which consent may be granted or withheld in the sole discretion of the Supplier or the Distributor); provided that any assignment by the Distributor to its Affiliates does not relieve the Distributor of its obligations hereunder.

SECTION 10.07. Parties in Interest. This Agreement shall be binding upon and inure solely to the benefit of each party hereto, and nothing in this Agreement, express or implied, is intended to or shall confer upon any other Person any rights, benefits or remedies of any nature whatsoever under or by reason of this Agreement.

SECTION 10.08. Severability. If any term or other provision of this Agreement is invalid, illegal or incapable of being enforced by any law, rule, regulation or public policy, all other terms and provisions of this Agreement shall nevertheless remain in full force and effect so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to any party. Upon such determination that any term or other provision is invalid, illegal or incapable of being enforced, the parties hereto shall negotiate in good faith to modify this Agreement so as to effect the original intent of the parties as closely as possible in an acceptable manner in order that the transactions contemplated hereby are consummated as originally contemplated to the greatest extent possible.

SECTION 10.09. Headings. The descriptive headings contained in this Agreement are included for convenience of reference only and shall not affect in any way the meaning or interpretation of this Agreement.

SECTION 10.10. Counterparts. This Agreement may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which when executed shall be deemed to be an original but all of which taken together shall constitute one and the same agreement.

SECTION 10.11. Approvals. Whenever a matter is subject to the approval of the other Party, a Party shall not unreasonably withhold its approval.

IN WITNESS WHEREOF, the Distributor and the Supplier each have caused this Agreement to be executed by its duly authorized officer as of the date first above written.

COBE BCT, INC.

By: /s/ EDWARD WOOD

Edward Wood
President

AASTROM BIOSCIENCES, INC.

By: /s/ R. DOUGLAS ARMSTRONG

R. Douglas Armstrong, Ph.D.
President and Chief
Executive Officer

SCHEDULE A

PRODUCT DEVELOPMENT PROGRAM

INTRODUCTION

AASTROM has under development a clinical Cell Expansion System (CES) consisting of multiple components. It is the purpose of this document to describe the CES with respect to its planned design, development and production.

Inasmuch as the Product Development Program for the CES will necessarily have to be adjusted, modified and updated from time to time as each incremental stage of the development progresses in the future, the timelines and the implementing details, specifications, configurations, components, methodologies and regulatory approval process will change to some extent, from that set forth below. The items set forth below are AASTROM's current, best approximation and understanding as to these matters, but it is expected that there will be changes in the future as to some of the implementing details and timelines as specified in this Production Development Program.

*

*CONFIDENTIAL PORTION REDACTED AND FILED SEPARATELY WITH THE COMMISSION

SCHEDULE B

TABLE OF CONTENTS
AASTROM/COBE CELL EXPANSION SYSTEM
MARKET DEVELOPMENT PROGRAM

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*CONFIDENTIAL PORTION REDACTED AND FILED
SEPARATELY WITH THE COMMISSION

Revision of Schedule C of the 11/1/93 Distribution Agreement
1994-1995 Annual Commitment List
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*CONFIDENTIAL PORTION REDACTED AND FILED
SEPARATELY WITH THE COMMISSION

SUPPLEMENTAL AGREEMENT

This Agreement is entered into as of March 29, 1995, by and between Aastrom Biosciences, Inc., a Michigan corporation ("Aastrom"), Cobe Laboratories, Inc., a Colorado corporation ("Cobe Lab"), and Cobe BCT, Inc., a Colorado corporation ("Cobe BCT"), with respect to the following facts:

A. Pursuant to Section 5.05 of that certain Stock Purchase Agreement between Aastrom and Cobe Lab, dated October 22, 1993 (the "Stock Purchase Agreement"), Aastrom has a "put option" to require Cobe Lab to purchase stock issued by Aastrom in a "Qualifying Private Placement" (as defined in the Stock Purchase Agreement), under certain circumstances.

B. Pursuant to Section 5.03 of the Distribution Agreement between Aastrom and Cobe BCT, dated as of October 22, 1993 (the "Distribution Agreement"), Cobe BCT is obligated to pay to Aastrom a $5 million fee upon the occurrence of specified events (the "Milestone Fees").

C. Aastrom is in the process of offering for sale a new series of preferred stock, designated as Series D Preferred Stock.

WHEREFORE, the parties hereto mutually agree as follows:

1. Cobe Lab agrees that if Aastrom sells shares of its Series D Preferred Stock in a private placement on or before April 22, 1995 in which (i) the cash proceeds to Aastrom from such sales to investors other than Cobe Lab equal at least $5 million, and (ii) persons other than holders of Series A Preferred Stock and Series B Preferred Stock and their affiliates purchase shares of Series D Preferred Stock having an aggregate purchase price of at least $1 million (the "Private Placement"), then upon request by Aastrom by May 31, 1995, Cobe Lab will purchase shares of Series D Preferred Stock having an aggregate purchase price of $5 million for the same price per share and on the same terms and conditions as such other investors; provided, that such terms and conditions must be reasonably satisfactory to Cobe Lab (the "Cobe Share Purchase").

2. Aastrom, Cobe Lab and Cobe BCT agree that if the Cobe Share Purchase is consummated:

(i) The Private Placement will not be deemed to be a Qualifying Private Placement for purposes of Section 5.05 of the Stock Purchase Agreement, and Aastrom will retain its "put option" for the next Qualifying Private Placement or a Qualifying IPO;

(ii) Upon the consummation of the Cobe Share Purchase, Section 1.01 of the Distribution Agreement shall be amended by deleting the

definition of "Milestone Fees" and replacing such definition with the following words:

"Milestone Events" means each of (i) the Distributor's first issuance of an invoice (or invoices) evidencing that the Complete System Sale has occurred and (ii) the final written approval by the FDA of the Products for Sales in the United States for any clinical indications for Stem Cell Therapy Applications."

(iii) Upon the consummation of the Cobe Share Purchase, Section 4.11(b) of the Distribution Agreement shall be amended by deleting the words "within three years after the payment of the latter Milestone Fee" and replacing such words with the words "within three years after the later to occur of the Milestone Events");

(iv) Upon the consummation of the Cobe Share Purchase, Section 5.03 of the Distribution Agreement shall be amended by deleting paragraphs 5.03(b) and 5.03(c) in their entirety and by redesignating paragraph 5.03(a) as Section 5.03;

(v) Upon the consummation of the Cobe Share Purchase, Section 7.05(e) of the Distribution Agreement shall be amended by deleting the words "the second anniversary of the payment of the later of the Milestone Fees" and replacing such words with the words "the second anniversary of the later to occur of the Milestone Events"; and

(vi) Upon the consummation of the Cobe Share Purchase, Section 7.07(a) of the Distribution Agreement shall be amended by deleting the words "and the Distributor has paid all of the Milestone Fees," and replacing such words with the words "and both Milestone Events have occurred".

IN WITNESS WHEREOF, the parties have executed and delivered this Agreement as of the date set forth above.

AASTROM BIOSCIENCES, INC.

By:/s/ R. Douglas Armstrong

COBE LABORATORIES, INC.

By:/s/

COBE BCT, INC.

By:/s/ Edward C. Wood, Jr.

AMENDMENT
to
RESTATED DISTRIBUTION AGREEMENT
between
COBE BCT, INC. and
AASTROM BIOSCIENCES, INC.

This Amendment is made as of September 11, 1995, to that certain Restated Distribution Agreement dated as of October 22, 1993, between AASTROM Biosciences, Inc., a Michigan corporation (the "Supplier"), and Cobe BCT, Inc., a Colorado corporation (the "Distributor") (the "Restated Distribution Agreement").

1. The terms which are defined in the Restated Distribution Agreement shall have the same meaning in this Amendment as defined in the Restated Distribution Agreement.

2. The definition of "Stem Cell Therapy Applications" in the Restated Distribution Agreement is hereby amended to add the words "or umbilical cord blood" on the second line, so that the first two and one-half lines read as follows:

> "Stem Cell Therapy Applications" means applications of the Products pursuant to which human bone marrow or peripheral blood or umbilical cord blood derived stem and hematopoietic cells are used primarily for one or more of the following:...

3. There shall be added to Section 1.01 of the Restated Distribution Agreement: new defined terms, as follows:

> "Lymphoid Cell" means lymphoid stem cell (e.g., any cell capable of generating cells solely of lymphoid lineage) and any cell derived therefrom, including but not limited to, the subcortical thymocyte, cortical thymocyte, medullary thymocyte, lymphocyte, B-cell, plasma cell, immunoblast, lymphoplasmacytoid cell and the NK-cell.
>
> "Lymphoid Cell Applications" means any expansion, selection or genetic manipulation, including genetic transformation, of Lymphoid Cells, provided that either the starting cell population is a lymphoid selected cell mixture, or that the mature lymphoid cell production is not derived ex vivo from a pre-lymphoid cell-type (e.g., multipotent stem cell).

4. The first sentence in Section 2.01(d) of the Restated Distribution Agreement is hereby amended to add the words "(excluding, however, for Lymphoid Cell Applications)" in two locations, so that the first sentence as amended reads as follows:

> (d) Notwithstanding any provision of this Agreement to the contrary, the Supplier may Sell the Products to its Affiliates for Stem Cell Therapy Applications by such Affiliates, but not for resale to Persons which are not Affiliates of the Supplier, and may make such Sales with a license for use of the Products for Stem Cell Therapy Applications, and the Distributor may Sell the Products to its Affiliates for applications other than Stem Cell Therapy Applications (excluding, however, Lymphoid Cell Applications) by such Affiliates, but not for resale to Persons which are not Affiliates of the Distributor, and may make such Sales with a license for use of the Products for applications other than Stem Cell Therapy Applications (excluding, however, for Lymphoid Cell Applications) (such permitted Sales by either the Distributor or the Supplier being "Affiliate Sales").

5. Excepting only as otherwise set forth above, all other terms and provisions of the Restated Distribution Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Distributor and the Supplier each have caused this Amendment to be executed by its duly authorized officer as of the date first written above.

COBE BCT, INC.

By: /s/ EDWARD WOOD

Edward Wood, President

AASTROM BIOSCIENCES, INC.

By: /s/ R. DOUGLAS ARMSTRONG

R. Douglas Armstrong, Ph.D.,
President and Chief Executive Officer

AMENDMENT TO
RESTATED DISTRIBUTION AGREEMENT

This Amendment is made as of October 29, 1996 to that certain Restated Distribution Agreement dated as of October 22, 1993, between Aastrom Biosciences, Inc., a Michigan corporation (the "Supplier") and Cobe BCT, a Colorado corporation (the "Distributor") (the "Restated Distribution Agreement").

1. With respect to the Purchase Price payable by the Distributor to the Supplier for the Product as specified in Article V of the Restated Distribution Agreement, the parties hereby agree that the Distributor shall be entitled to a 5% discount on the Purchase Price for all of the Product purchased until the aggregate of said discount equals a total of $350,000, increased by 25% per annum, compounded annually, from December 15, 1996, until the date the first $200,000 in aggregate discounts are actually realized and credited. Said aggregate discount, including the compounded increase, shall hereinafter be called the "Aggregate Discount". If the Aggregate Discount has not been realized by the second anniversary of the first commercial sale of the Product by the Distributor, then the discount on subsequent sales of the Product from the Supplier to the Distributor shall be at 10% (rather than 5%), until the Aggregate Discount is realized by the Distributor.

2. An example of the calculations for the Aggregate Discount specified in Section 1 above is as follows:

a. First Product sold to Distributor (12/15/97)

b. First $200,000 discount credit at 5% actually realized by Distributor (12/15/98)

c. Aggregate Discount ($350,000 x 1.25/2/) as of 12/15/98: 546,875

d. Less $200,000 discount credit at 5% actually realized as of 12/15/98: (200,000)

e. Net balance of Aggregate Discount as of 12/15/98: 346,875

f. Further $300,000 discount credit at 5% actually realized from 12/16/98 to 12/15/99: (300,000)

g. Net balance of Aggregate Discount as of 12/15/99: 46,875

h. Further $46,875 discount credit at 10% actually realized after 12/15/99: (46,875)

i. Aggregate Discount is fully realized.

3. The Supplier has agreed to the foregoing discount in consideration and recognition of the assistance which the Distributor has given to the Supplier in the development of the Product.

4. Terms defined in the Restated Distribution Agreement shall have the same meaning in this Amendment.

5. Excepting only as otherwise expressly set forth above, all other terms and provisions of the Restated Distribution Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Distributor and the Supplier each have caused this Amendment to be executed by its duly authorized officer as of the date first written above.

COBE BCT, INC.

By: /s/ Edward C. Wood

AASTROM BIOSCIENCES, INC.

By: /s/ R. Douglas Armstrong

EXHIBIT 10.12

COLLABORATIVE PRODUCT DEVELOPMENT AGREEMENT
(Instrument)

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EXHIBITS

COLLABORATIVE PRODUCT DEVELOPMENT AGREEMENT

(Instrument)

This Collaborative Product Development Agreement (the "Agreement") is entered into as of May 10, 1994, by and between Aastrom Biosciences, Inc., a Michigan corporation ("Aastrom"), and SeaMED Corporation, a Delaware corporation ("SeaMED").

A. Aastrom is in the final stages of research and development for a proprietary Cell Expansion System which is used for stem cell growth (the "System"). The System includes an instrument or instruments (the "Instrument") and a disposable biochamber cartridge. Aastrom has completed a working prototype model of the System; and Aastrom now needs to complete the design of the Instrument and to obtain (i) pre-production models defined as pre-revision Rev. A specification units (hereinafter called "preproduction units") of the Instrument for laboratory and clinical evaluation, and (ii) pre-commercial models, defined as units made once the release occurs for Rev. A specification units (hereinafter called "precommercial units") of the Instrument for laboratory and clinical evaluation. Attached hereto as Exhibit A is a general description of the System, including the Instrument.

B. SeaMED has expertise and experience in the development and manufacture of medical instruments which are somewhat similar to the Instrument, and SeaMED is prepared to collaborate with Aastrom for completing the necessary design work on the Instrument to enable SeaMED to produce preproduction units and precommercial units of the Instrument for laboratory and clinical evaluation as outlined in the SeaMED Project Plan, Drawing Number 908180, draft dated 2-2-94.

C. As further described in this Agreement, (i) the design and manufacture of preproduction units and precommercial units of the Instrument shall be referred to as Phase I, and (ii) the subsequent manufacture of commercial units (defined as any unit that is sold) of the Instrument shall be referred to as Phase II.

D. Pursuant to the terms of this Agreement, during Phase I SeaMED shall (i) collaborate with and assist Aastrom to design the preproduction units and precommercial units of the Instrument, and (ii) manufacture the preproduction units and precommercial units of the Instrument. At least six months prior to the expected commencement of Phase II, Aastrom and SeaMED shall pursue good faith negotiations for entering into a Manufacturing Agreement for SeaMED to manufacture the commercial units of the Instrument, as further described in

Section 6 of this Agreement. Because of foreign governmental approval requirements, it is possible that there still will be some preproduction units and precommercial units being made during Phase I, while at the same time there will be some commercial units being made during Phase II.

E. Aastrom has contracted with Roecker Design Group, and Aastrom may also contract with other design specialists for assistance with specified aspects of the System and/or Instrument (collectively called the "Other Design Contractors").

AGREEMENT

NOW, THEREFORE, the parties hereby agree as follows:

1. Responsibilities of Aastrom.

1.1 Project Management. Aastrom shall be responsible for overall project management relating to the development of the Instrument.

1.2 Specifications. Aastrom shall collaborate with SeaMED and the Other Design Contractors on completing the design work for the Instrument. With assistance from SeaMED as more fully described in Section 2 below, Aastrom shall develop the final specifications and functional requirements for the preproduction units and precommercial units (including applicable test criteria) (the "Specifications"). Upon completion of the Specifications, Aastrom shall promptly provide SeaMED with a copy of the Specifications, and the Specifications shall be incorporated herein as Exhibit B hereto.

2. Responsibilities of SeaMED.

2.1 Design Collaboration. SeaMED shall collaborate with Aastrom and the Other Design Contractors on completing the design work for the Instrument. The time schedule for completing such design work shall be as set forth in Exhibit C. Without limiting the foregoing, SeaMED shall:

(a) Assist Aastrom with respect to planning for all manufacturing issues that are likely to arise in connection with the design work and development of the Instrument, including issues relating to the Phase I and Phase II manufacturing process development and validation, component sourcing, and the creation of Device Master record documentation requirements;

(b) Review the Instrument software design and documentation, and provide third party quality assurance, including specification review, code audits, verification and validation testing, to ensure to the best of

SeaMED's ability that they are in compliance with all applicable guidelines of the U.S. Food and Drug Administration;

(c) Assist Aastrom to establish a reliability goal for the Instrument, calculate the reliability of the preproduction units and precommercial units at certain established review points during the design and development of the Instrument, and perform demonstration tests on pilot production units produced by SeaMED; and

(d) Determine all necessary requirements for certification of the Instrument by UL, CSA, IEC, TUV and EC, and to review the design of the Instrument at various key points during the product development stage to determine compliance with such requirements, and coordinate the testing of the Instrument for compliance with such requirements and the submission of the Instrument for certification by each of such entities.

(e) Prepare working drawings for manufacturing and testing the preproduction units and the precommercial units of the Instrument, including without limitation, (i) specifications for component parts to be acquired from specified vendors, (ii) drawings and specifications for component parts, (iii) test and acceptance procedures and criteria, (iv) subassembly specifications, drawings and requirements, (v) costed bill of materials, and (vi) product specific manufacturing procedures, device master record, routing and processes (collectively called the "Manufacturing Drawings"), which Manufacturing Drawings shall be subject to the prior written approval of Aastrom, shall be owned by Aastrom, and shall ultimately be incorporated herein as Exhibit D. If said manufacturing drawings reference general policies and procedures of SeaMED, such as SeaMED's Quality System, then such general policies and procedures shall remain the property of SeaMED, but Aastrom shall be given a copy of the same. As modifications are made from time to time to the Manufacturing Drawings by mutual agreement, SeaMED shall furnish to Aastrom an updated copy thereof.

(f) To the extent required for submittal to the U.S. Food and Drug Administration ("FDA") (or comparable foreign agencies) for Aastrom's IDE and/or PMA (or comparable foreign approvals), prepare a detailed description of SeaMED's manufacturing methods, processes, procedures and facility applicable to Aastrom's Instrument.

2.2 Delivery of Preproduction Units. Following Aastrom's approval of the Manufacturing Drawings prepared by SeaMED, in accordance with the time and quantity schedule specified in Exhibit C attached hereto, and the pricing specified in Exhibit E, SeaMED shall manufacture and deliver to Aastrom at its Ann Arbor, Michigan facility, a number of the preproduction units of the Instrument, in compliance with the Specifications and the Manufacturing Drawings,

for use in clinical tests of the System. The exact number of said preproduction units, and any variations thereof, shall be as specified by Aastrom in a purchase order, subject to SeaMED's reasonable approval, which approval will not be withheld unreasonably. As Aastrom's clinical tests of the System proceed, and depending on the outcome of those tests, Aastrom may place purchase orders for additional units of the preproduction unit; and SeaMED shall manufacture and sell said additional preproduction units on the same terms and conditions as set forth herein. Provided, however, the maximum number of preproduction units shall be as specified in Exhibit C.

2.2.1 Delivery of Precommercial Units. Once Aastrom has released
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for manufacture the Rev. A specifications for the precommercial units, SeaMED shall manufacture and deliver to Aastrom at its Ann Arbor, Michigan facility, a number of the precommercial units of the Instrument, in compliance with the Rev. A Specifications and the related manufacturing Drawings, for use in clinical tests of the System. The exact number of said precommercial units shall be specified by Aastrom in a purchase order, subject to SeaMED's reasonable approval, which approval will not be withheld unreasonably. The purchase and sale of the precommercial units shall be in accordance with the terms specified on Exhibit C-1 attached hereto. Delivery of precommercial units will be within twenty (20) weeks after SeaMED receives a firm purchase order for the specified number of units. A specific schedule will be determined at the time of the purchase order placement.

2.3 Maintenance of Adequate Facilities and Manufacturing

Practices. SeaMED shall maintain adequate personnel and facilities to perform
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its obligations under this Agreement. SeaMED shall assemble all of the preproduction units and precommercial units in an environment where good manufacturing practices are followed. Inasmuch as SeaMED's FDA facility registration and inspection record are extremely important to Aastrom's ability to obtain prompt FDA approval for Aastrom's System, SeaMED hereby agrees to use its best efforts to maintain in good standing all appropriate FDA facility registrations and inspection records. SeaMED shall immediately report to Aastrom in writing any adverse events, circumstances, or potential problems relating to SeaMED's FDA registrations and inspections that could adversely effect Aastrom's product or the System approval. SeaMed shall furnish to Aastrom a copy of the FDA facility registrations and inspection reports applicable as of the date of this Agreement, plus each subsequent FDA registration or inspection report during the term of this Agreement. SeaMED shall allow Aastrom and its agent to review and inspect SeaMED's facilities, and FDA compliance files, and correspondence to and from the FDA regarding inspections, registrations, and audits that pertain directly to Aastrom's product or the System's regulatory submission. SeaMED will inform Aastrom of any negative findings regarding other products (although the product and company will remain confidential) or processes that may have an impact on

Aastrom's product or regulatory submission. To the extent that European Economic Community standards apply to SeaMED's facility and manufacturing practices for units to be used in Europe, SeaMED will also comply with said standards.

2.4 No Subcontracting. No part of SeaMED's obligations under this Agreement shall be subcontracted by SeaMED that would impact Aastrom's PMA approval, without the prior written approval of Aastrom.

2.5 Inventory and Insurance. All inventory of components and materials purchased by SeaMED to make the Instrument shall be owned by SeaMED and shall be insured against risk of loss by SeaMED. Any components and materials purchased by Aastrom and delivered to SeaMED for SeaMED to use to make the Products shall be covered by SeaMED's insurance policy for risk of loss while said items remain in SeaMED's facility, with Aastrom being the loss payee therefor.

2.6 Transit. SeaMED shall arrange for shipment of the Instrument by a common carrier approved by Aastrom, to a destination specified by Aastrom. Title and risk of loss to the Instrument shall pass from SeaMED to Aastrom when the Instruments are delivered to a common carrier for shipment to Aastrom's designation.

2.7 Financial Condition. Each party shall furnish to the other party a copy of the party's quarterly financial statements and a copy of the party's annual financial statements, within forty-five (45) days after each quarter-end and ninety (90) days after the party's fiscal year-end. Each party shall give written notification to the other party of any material adverse financial condition affecting the party, including without limitation: (i) the filing of a significant lawsuit against the party, (ii) the lack of cash funds available to pay all obligations of the party as they become due, (iii) the lack of resources available to enable the party to fully and promptly perform its obligations under this Agreement on schedule, or (iv) any other condition which may jeopardize or impair the full and prompt performance by the party of its obligations under this Agreement. Said notification shall be given within five (5) days after the occurrence or realization of said adverse condition.

3. Acceptance Procedures. Delivery of each of the preproduction units and precommercial units shall be deemed accepted by Aastrom unless SeaMED is notified in writing of Aastrom's rejection of such delivery within thirty (30) days after the delivery date due to a failure thereof to comply with the Specifications and/or the Manufacturing Drawings, including the test criteria. In the event SeaMED receives such notice, SeaMED shall diligently attempt to promptly resolve any such failure, and to deliver a unit which conforms to the

Specifications and the Manufacturing Drawings. In the event SeaMED cannot resolve any such failure and deliver a unit that conforms to the Specifications and the Manufacturing Drawings within thirty (30) days of receipt of such notice, Aastrom may terminate this Agreement pursuant to Section 12 below.

4. Compensation. Aastrom shall compensate SeaMED for SeaMED's design work and preproduction unit manufacture on a "time and materials" basis, as further described on Exhibit E. Aastrom shall compensate SeaMED for the precommercial units manufactured pursuant to the maximum pricing formula as specified in Exhibit C-1 attached hereto, subject to the definitions and pricing schedule considerations in Section 4.1 of Exhibit F attached hereto. SeaMED shall submit to Aastrom a monthly invoice for said design work, and SeaMED shall invoice for units manufactured upon shipment of the units, and each invoice shall be accompanied by such supporting details as Aastrom may reasonably request. Aastrom shall pay said invoice within thirty (30) days after the invoice and supporting details are received by Aastrom.

5. Warranties.

5.1 SeaMED's Warranty. SeaMED warrants that each of the units (i) shall be manufactured in full compliance with the Specifications and the Manufacturing Drawings, (ii) shall be free from defects in material and workmanship, and (iii) shall be free from defects in design as to those specific elements for which SeaMED was primarily responsible for the design. As to elements of the unit for which SeaMED was not primarily responsible for the design, SeaMED is not making any warranty as to design. SeaMED further warrants that the manufacture, assembly and delivery of the units hereunder shall be (i) in compliance with all applicable federal, state and local laws, rules, regulations and executive orders, including without limitation, all of the employee compensation, health and safety and environmental laws applicable to SeaMED's facility, and all U.S. customs laws and regulations, and U.S. Food and Drug Administration ("FDA") regulations, and applicable foreign regulations, and (ii) performed in a professional, workmanlike manner in accordance with prevailing industry standards. SeaMED understands that Aastrom may sell the units to hospital customers or other users. SeaMED agrees that the foregoing warranties are for the benefit of Aastrom and any ultimate end-user of the units.

5.2 Limitation on Liability. SeaMED shall either repair or replace or provide to Aastrom full credit for the purchase price of any unit which is defective due to SeaMED's failure to comply with the foregoing warranty. Any such warranty repairs or replacements shall be completed within thirty (30) days after the date on which any defective unit is delivered to SeaMED. All shipping and other costs incurred in connection with the repair or replacement of any

defective unit shall be borne by and for the account of SeaMED. Except as specified in Section 8, SeaMED shall have no liability to Aastrom for any consequential damages or loss, including but not limited to loss of profits or goodwill, additional expenses incurred, or other damages.

5.3 Disclaimer of Warranties.

EXCEPT FOR THE WARRANTIES SET FORTH IN THIS SECTION, SEAMED DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

5.4 Aastrom's Warranty. Aastrom warrants that all elements of the Instrument units for which SeaMED was not primarily responsible for the design shall be free from defects in design.

6. Phase II Manufacture.

6.1 Manufacturing Agreement. Subject to satisfying the prerequisites listed below, Aastrom and SeaMED will enter into a Manufacturing Agreement for Phase II manufacture of commercial units of the Instrument in accordance with the terms set forth in Exhibit F attached hereto. At the option and discretion of Aastrom, Aastrom may waive any one or more of said prerequisites. Said prerequisites are:

(a) SeaMED has performed its obligations during Phase I in a diligent, prompt and effective manner, to the reasonable satisfaction of Aastrom, without any defaults by SeaMED.

(b) SeaMED has manufactured the preproduction units and precommercial units of the Instrument during Phase I in full compliance with the Manufacturing Drawings and the Specifications, and SeaMED has delivered the quantities of same on a timely schedule as ordered, and SeaMED has complied fully with its obligations under this Agreement.

(c) SeaMED has successfully controlled the costs to manufacture the preproduction units and precommercial units, on a reasonable and cost effective basis.

(d) SeaMED has adequate facilities, equipment, personnel, governmental approvals, and manufacturing capacity to manufacture the quantities

of the commercial units of the Instruments needed by Aastrom during Phase II; and SeaMED shall furnish to Aastrom reasonable evidence to verify the same.

(e) SeaMED's facility has received all necessary approvals from the FDA and from the European Community (or other necessary foreign agencies) to manufacture the commercial units of the Instrument.

(f) SeaMED's financial condition is sound and stable, such that there are no reasonable doubts as to SeaMED's financial ability to remain in business and perform its obligations contemplated under the Manufacturing Agreement, and SeaMED shall furnish to Aastrom reasonable evidence to verify the same.

(g) SeaMED is able and willing to manufacture the commercial units of the Instrument on a cost effective and efficient basis, on a timely production schedule, and on a high quality basis, pursuant to mutually approved pricing and delivery schedules, all in accordance with the Manufacturing Agreement, and SeaMED shall furnish to Aastrom reasonable evidence to verify the same.

(h) SeaMED maintains the insurance coverage as specified in the Manufacturing Agreement and SeaMED shall furnish to Aastrom reasonable evidence to verify the same.

(i) Aastrom is satisfied with the results of its clinical trials and the market potential for the Instrument, such that Aastrom is prepared to proceed with Phase II and the manufacture and sale of commercial units.

(j) SeaMED approves any modifications to the Phase II Manufacturing Drawings for the Instrument which Aastrom determines to be needed.

(k) SeaMED approves the quantities and delivery schedule determined by Aastrom to be needed to meet the market needs for the commercial units of the Instrument.

If Aastrom concludes that the foregoing prerequisites are satisfied, then Aastrom and SeaMED will enter into a Manufacturing Agreement in accordance with the terms set forth in Exhibit F. Provided however, SeaMED may decline to enter into such a Manufacturing Agreement only if one or more of the following circumstances occurs:

(l) Aastrom has defaulted on its obligations under this Agreement.

6.2 Phase II Manufacturing Drawings and Process. At least six (6) months prior to the expected commencement of Phase II, (i) SeaMED shall prepare and deliver to Aastrom any recommended revisions to the Manufacturing Drawings for the Instrument that may be needed for efficient and cost-effective manufacturing and testing of the commercial units of the Instrument, and (ii) SeaMED shall prepare and deliver to Aastrom a complete and detailed written package of documents which fully describes the manufacturing process for the manufacturing and testing of the commercial units of the Instrument, including without limitation, all items referenced in Sections 2.1(e) as the Manufacturing Drawings and 2.1(f). The foregoing shall hereinafter collectively be referred to as the "Phase II Manufacturing Drawings and Process." As modifications are made from time to time to said Phase II Manufacturing Drawings and Process by mutual agreement, SeaMED shall furnish to Aastrom an updated copy thereof.

6.3 Transition Cooperation. If this Agreement is terminated, SeaMED shall provide to Aastrom, or its designee, all necessary Instrument information, documentation, equipment lists, material lists, traceable recordings, tooling, suppliers, Phase II Manufacturing Drawings and Process, and description of manufacturing methods and processes (including device master list) required by governmental agencies, to enable the continued manufacture of the Instrument.

6.4 Compensation. If this Agreement is terminated by SeaMED, then the transition services specified in Sections 6.2 and 6.3 shall be provided by SeaMED, without charge to Aastrom. If Aastrom terminates this Agreement, then Aastrom shall compensate SeaMED for SeaMED's transition services specified in Section 6.2 and 6.3 above in accordance with the Compensation Schedule attached hereto as Exhibit E.

7. Records; Inspection. SeaMED shall keep accurate and complete records with respect to its design work and manufacture of the Instrument preproduction units and precommercial units, including all records of time worked and other costs. At Aastrom's request, SeaMED shall allow Aastrom or its designee to inspect and audit such records to verify actual costs and reasonableness of allocation methodologies. Additionally, at Aastrom's request, SeaMED shall allow Aastrom to inspect the facility where the Instrument units are manufactured.

8. Indemnification.

8.1 By SeaMED. SeaMED shall indemnify, defend and hold harmless Aastrom and its officers, directors, employees and agents for any loss, claim, cost or damage arising out of any claim or action for bodily injury based on the use of any Instrument preproduction units and precommercial units to the extent such loss, claim, cost or damage results, directly or indirectly, (i) from a

breach by SeaMED of its warranties as set forth in this Agreement, or (ii) from any negligent, willful or intentional acts by SeaMED.

8.2 By Aastrom. Aastrom shall indemnify, defend and hold harmless SeaMED and its officers, directors, employees and agents for any loss, claim, cost or damage arising out of any claim or action for bodily injury based on the use of any Instrument preproduction units and precommercial units to the extent such loss, claim, cost or damage does not result from SeaMED's acts described in Section 8.1 above, but rather results, directly or indirectly, (i) from the negligent, willful or intentional acts of Aastrom or its agents (other than SeaMED), (ii) from a breach by Aastrom of its warranties with respect to the Instrument preproduction unit, or (iii) from any product liability claim related to or arising out of the Instrument preproduction units and precommercial units, other than those claims described in Section 8.1 above.

8.3 Patent Infringement. Aastrom shall indemnify and hold SeaMED harmless from any loss, damage, or cost (including reasonable attorneys' fees and expenses) arising from any claim that the Instrument or its operation infringes a United States patent, trademark, copyright, or other proprietary right, including trade secrets. SeaMED shall indemnify and hold Aastrom harmless from any loss, damage, or cost (including reasonable attorneys' fees and expenses) arising from any claim that SeaMED's manufacturing processes or methods infringes a United States patent or other proprietary right, including trade secrets.

8.4 Control of Action. In the event any lawsuit for which indemnity is applicable, Aastrom will control the defense and selection of defense counsel, and SeaMED will be entitled to participate therein by selecting co-counsel reasonably satisfactory to Aastrom. Aastrom shall have the right to direct and control such defense, to settle any dispute, and SeaMED shall be responsible for payment of any settlement to which SeaMED has consented, such consent not to be unreasonably withheld. In conducting the defense and negotiating any settlement, Aastrom's counsel shall give due consideration to suggestions of SeaMED's co-counsel.

8.5 Insurance. SeaMED agrees to provide and maintain at its sole expense comprehensive general liability insurance, including product liability insurance, covering worldwide sales, covering bodily injury and property damage to third parties for accidents or injuries arising out of the use of the Instrument preproduction units and precommercial units manufactured by SeaMED. Said insurance shall have a combined single limit of $2 million per occurrence, as a total limit of liability for any one occurrence with respect to bodily injury and property damage, with a deductible of no higher than $25,000, and with no aggregate annual limit. SeaMED will furnish to Aastrom certificates of insurance evidencing that such insurance is in effect, and that Aastrom is named as an additional insured

party thereunder. Such certificates shall provide that in the event such insurance should be materially adversely changed or terminated for any reason, the insurance company will give Aastrom thirty (30) days' prior written notice of such change or termination.

9. Exclusivity.

9.1 Continuing Prohibition. At all times both during and after the term of this Agreement, SeaMED shall not make or sell, or enable others to make or sell, the Instrument, excepting only for making and selling the Instrument for Aastrom. Similarly, at all times SeaMED shall not use, or enable others to use, any of Aastrom's proprietary information as further described in Section 10 below.

9.2 No Similar Product. (a) During the term of this Agreement, and during the term of any similar manufacturing agreement between SeaMED and Aastrom, and for a period of three (3) years thereafter, SeaMED shall not participate in the design or development by any party other than Aastrom of any cell expansion system which uses any technologies which are similar to one or more of the significant proprietary technologies utilized by the Instrument; provided, however, SeaMED may continue to perform its existing customer agreements which are in place as of the date hereof, and SeaMED may manufacture products that have cell culture applications so long as said products are not competitive with Aastrom's Instrument and so long as said products do not use substantially identical subassemblies; (b) During the term of this Agreement, and during the term of any manufacturing agreement between SeaMED and Aastrom, SeaMED shall not manufacture, assemble, produce, ship or in any other way make available for use or distribution, by any party other than Aastrom, any cell expansion system which uses any technologies which are similar to one or more of the significant proprietary technologies utilized by the Instrument.

9.3 No Use of Aastrom's Proprietary Information. Even after the three (3) years specified in Section 9.2(a) above, SeaMED shall not thereafter render any services or make or sell any product for any other party which services or products use or arise out of technology developed or owned by Aastrom or developed by SeaMED on behalf of Aastrom. Such methods or systems shall include, without limitation, those presently in the course of development by Aastrom and those which shall be developed by SeaMED and/or Aastrom and/or the Other Design Contractors in furtherance of this Agreement. SeaMED acknowledges and agrees that Aastrom has a legitimate business purpose in precluding SeaMED from divulging or otherwise using any and all information derived by SeaMED in the course of performing this Agreement, and that Aastrom intends to use the Instrument and related methods and systems for its own business purpose and competitive advantage in the marketplace.

10. Proprietary Information.

10.1 Aastrom's Property; Use of Property by SeaMED. SeaMED recognizes the proprietary interest of Aastrom in the techniques, designs, specifications, drawings and other technical data now existing or developed during the term of this Agreement relating to the System. SeaMED acknowledges and agrees that such techniques, designs, specifications, drawings and technical data relating to the System, whether developed by SeaMED alone, in conjunction with others, or otherwise, shall be and is the property of Aastrom. SeaMED shall cooperate fully in communicating to Aastrom or its agents the property described above. SeaMED hereby waives any and all right, title and interest in and to such proprietary information. SeaMED shall have the right to use any technology, information, samples, documents and other proprietary information of Aastrom provided in connection with the collaboration described herein solely and exclusively for the purpose of conducting such development and design efforts related to the Instrument and manufacturing the System for Aastrom and for no other purpose.

10.2 Inventions. As to any improvement to the Instrument, any component thereof or any disposable used in connection therewith, which is made by SeaMED's employees or agents in the course of SeaMED's work for Aastrom, or as a result thereof, which improvement constitutes a patentable invention, SeaMED hereby agrees to promptly disclose the same to Aastrom, and SeaMED hereby agrees to assign to Aastrom, and SeaMED hereby agrees to cause the inventor/employee to assign to Aastrom, all ownership rights in the invention; and SeaMED shall cause said inventor/employee to sign appropriate patent applications prepared at the expense of Aastrom.

10.3 Nondisclosure. SeaMED acknowledges and agrees that Aastrom is entitled to prevent Aastrom's competitors from obtaining and utilizing Aastrom's trade secrets. SeaMED agrees during the term hereof and thereafter to hold Aastrom's trade secrets and other confidential or proprietary information in strictest confidence and not to use them for purposes other than performance hereunder, and not to disclose them or allow them to be disclosed, directly or indirectly, to any other person or entity, other than to persons engaged by SeaMED for the purpose of performance hereunder, without Aastrom's prior written consent. SeaMED acknowledges the confidential nature of its relationship with Aastrom and of any information relating to the Instrument, Aastrom, or its distributors, agents, clients or customers which SeaMED may obtain during the term hereof. SeaMED also agrees to place any persons to whom said information is disclosed for purposes of performance hereunder under a legal obligation to treat such information as strictly confidential.

10.4 Confidentiality. The provisions and arrangements made under this Agreement are confidential between parties. Each party shall protect

confidential information in the same manner it protects its own confidential materials. Neither party shall make any reference to this Agreement or any provision hereof in any publicly disseminated literature, printed matter, or other publicity issued by or for it, except (i) as required by law, (ii) in connection with a public or private offer or sale of securities, a business collaboration or transaction, or a governmental or industry regulatory communication, or (iii) in a fashion and at a time mutually agreed upon by both parties after the execution of this Agreement. After Aastrom has sold an Instrument in the ordinary course of business, SeaMED may add Aastrom to SeaMED's list of customers and may show external product photographs for marketing purposes.

11. Term. The term of this Agreement shall commence on the date first written above and shall continue in full force and effect until terminated as set forth herein. Either party may terminate this Agreement without cause upon at least six (6) months' prior written notice. Upon any termination of this Agreement, (i) both parties shall fully perform all of their obligations accruing up through the date of termination and (ii) SeaMED will immediately return to Aastrom all tools and tooling, components, work-in-process, preproduction units, and any other items which have been or will be paid for by Aastrom, plus any information, Manufacturing Drawings, description of manufacturing methods and processes required by governmental agencies, and all other items related to the Instrument. Additionally, to the extent applicable, the obligations under Sections 5, 7, 8, 9, 10 and 13 shall survive any termination of this Agreement for a period of ten (10) years after the termination of this Agreement.

12. Default and Termination.

12.1 Breach. The occurrence of any one or more of the following events shall constitute an event of default hereunder, and upon the expiration of any applicable time period for a cure, shall constitute a breach of this Agreement, giving rise to the rights identified in Section 12.2 hereof:

(a) If Aastrom shall default hereunder in the payment of funds when due and such default continues for a period of thirty (30) days after written notice thereof;

(b) Subject to subsections (d) and (e) below, if either party fails to faithfully perform or observe any agreement or condition to be performed by such party (including without limitation, the delivery obligations set forth on Exhibit C), and if such default continues for a period of thirty (30) days after written notice thereof, specifying the nature of such default;

(c) If any proceeding is commenced by or for either party under any of the bankruptcy laws, or if either party is adjudged insolvent by any court,

makes an assignment for the benefit of creditors, or enters into a general extension agreement with creditors;

(d) If SeaMED shall breach its obligation to timely repair any defective Instrument preproduction unit pursuant to Section 3; or

(e) If SeaMED shall breach its obligations of exclusivity or confidentiality set forth in Sections 9 or 10 hereof.

12.2 Remedy. In addition to all rights and remedies provided under law, the nondefaulting party shall have the right, in the event of default, to terminate this Agreement and any obligations imposed on such nondefaulting party hereunder, provided, however, that, to the extent applicable, the obligations under Sections 5, 7, 8, 9, 10 and 13 shall survive any termination of this Agreement.

13. Miscellaneous.

13.1 Independent Contractors. The relationship between Aastrom and SeaMED hereunder shall be that of independent contractors, and nothing in this Agreement shall be deemed to constitute a joint venture, partnership, agency or employer/employee arrangement between the parties. Neither party shall have any authority or power to bind the other party or to contract in the name of, or make any representations or warranties, express or implied, on behalf of the other party, or otherwise create any liability against the other party in any way for any purpose.

13.2 Causes Beyond Control. The parties hereto shall not be responsible for any loss or breach due to delay in delivery or performance hereunder caused by governmental regulations, controls or directions, outbreak of a state of emergency, hostilities, civil commotion, riots, epidemics, acts of God, other natural casualties, fires, strikes, walkouts or other similar cause or causes beyond the control of the parties. In the event that any party shall be delayed in, or prevented from, performing its obligations under this Agreement as a result of any of the foregoing, such party shall promptly notify the other party of such delay or cessation in performance. In the event that such party is unable to resume performance hereunder within sixty (60) days of the date on which its performance was suspended, the other party shall have the right to terminate this Agreement upon ten (10) days prior written notice.

13.3 Successors and Assigns. The rights and remedies of Aastrom under this Agreement shall inure to the benefit of the successors, assigns and transferees of Aastrom. SeaMED shall have no right to assign, transfer or otherwise dispose of its rights under this Agreement or to assign the burdens hereof, without the prior written consent of Aastrom.

13.4 Applicable Law. The construction of this Agreement, and the rights and liabilities of the parties hereto, shall be governed by the laws of the State of Michigan.

13.5 Severability. Each term, condition or provision of this Agreement shall be viewed as separate and distinct, and in the event that any such term, condition or provision shall be held by a court of competent jurisdiction to be invalid, the remaining provisions shall continue in full force and effect.

13.6 Entire Agreement; Modification and Waiver. This Agreement contains the entire agreement and understanding between the parties and supersedes all prior agreements and understandings between them relating to the subject matter hereof. This Agreement may not be amended or modified except by an instrument in writing, signed by duly authorized representatives of both parties. The waiver, express or implied, by any party of any right hereunder or of any failure to perform or breach hereof by any other party shall not be deemed to constitute a waiver of any other right hereunder or of any claim in respect of any other failure to perform or breach.

13.7 Counterparts. This Agreement may be executed in counterparts all of which together shall constitute one and the same instrument.

13.8 Dispute Resolution. Any controversy or claim arising out of or relating to this Agreement, or the breach or interpretation hereof, shall be resolved through good faith negotiation between the principals of the parties hereto. Any controversy or claim not resolved by mutual agreement shall be submitted to binding arbitration in Ann Arbor, Michigan, in accordance with the rules of the American Arbitration Association ("AAA") as then in effect; and judgment upon the award rendered in such arbitration shall be final and may be entered in any court having jurisdiction thereof. Notice of the demand for arbitration shall be filed in writing with the other party to this Agreement and with the AAA. In no event shall the demand for arbitration be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations. This agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The party most prevailing in said arbitration, as determined by the arbitrator based upon the parties' respective claims and positions, shall be entitled to recover from the non-prevailing party all attorneys' fees and other costs incurred in connection with the arbitration proceeding.

13.9 Notices. All notices and other communications permitted or required under this Agreement shall be in writing and shall be deemed to have been given when received at the addresses set forth on the signature page hereof, or at such other address as may be specified by one party in writing to the other.

Said written notice may be given by mail, telecopy, rush delivery service, personal delivery or any other means.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

AASTROM:

AASTROM BIOSCIENCES, INC.
a Michigan corporation

By:/s/ R. DOUGLAS ARMSTRONG

Name: R. Douglas Armstrong, Ph.D.

Title: President and CEO

P. O. Box 376
Ann Arbor, MI 48106
Attn: R. Douglas Armstrong, Ph.D.
Fax: (313) 665-0485

SEAMED:

SEAMED CORPORATION,
a Delaware corporation

By: /s/ W. ROBERT BERG

Name: W. Robert Berg
Title: President/CEO

11810 North Creek Parkway North
Bothell, WA 98011
Attn: W. Robert Berg
Fax: (206) 487-1736

EXHIBITS

A	General Description of the System and the Instrument
B	Specifications and Functional Requirements for the Instrument
C	Time and Quantity Schedule - Preproduction Units
C-1	Pricing for Precommercial Units
D	Manufacturing Drawings for the Instrument
E	Compensation Schedule for Design Work and Manufacturing Preproduction Units
F	Summary of Manufacturing Agreement for Phase II

EXHIBIT A

General Description of the System and the Instrument

1.1 The Aastrom Cell Expansion System represents technology for the ex vivo growth and expansion of human stem and hematopoietic progenitor cells. The system is intended to provide cells in sufficient volume and with the necessary characteristics to complete a bone marrow transplantation or a nadir prevention/rescue resulting from therapies such as high dose chemotherapy or radiation. These cells are grown from a small starting population of cells normally obtained from the bone marrow or peripheral blood. The use of Cell Expansion System provides for production of cells that can be infused to augment recovery of a compromised hematopoietic system.

1.2 The Cell Expansion System consists of (1) a disposable biochamber cartridge where the growth and expansion of cells takes place, (2) a biochamber incubation unit and companion monitor module that controls the biological and physical environment during the expansion process, (3) an inoculation/harvest unit that facilitates the initial filling and inoculation of cells as well as the final harvest of cells at the completion of the expansion process, (4) growth medium as required by the cell culture (to which specified growth factors and glutamine are added), (5) harvest reagents which facilitate the removal of the expanded cells from the biochamber, (6) a system rack will be available to conveniently integrate multiple biochamber incubation units with the monitor module.

1.2.1. The disposal biochamber cartridge (DBC) contains the medium contact components for the incubation period and provides a functionally closed environment in which the cell expansion can occur. The cartridge is provided fully assembled in a sterile package.

In addition to a cell growth chamber, the medium contact components include a reservoir for medium supply, a pump mechanism for delivery of the medium to the growth chamber, valves to facilitate filling and harvesting, a reservoir for the collection of waste medium exiting the growth chamber, and a reservoir for the collection of harvested cells.

The cartridge also includes a gas chamber which is supplied with a controlled mixture of gases for pH stability and oxygenation of the growth chamber through a gas permeable, hydrophobic membrane that separates the two chambers.

The cartridge also includes a provision for heat transfer to the growth chamber and away from the medium supply reservoir to facilitate temperature control.

A biochamber key containing a non-volatile memory device is attached to the DBC at the beginning of use and accessed by the system electronics during the cell expansion process to record pertinent data. The key is detached after cell harvest, and archived as part of the patient specific cell expansion record.

1.2.2. The biochamber incubation unit (BIU) provides the biological and physical environment to support the cell growth process. The biochamber cartridge is inserted into the BIU after inoculation is complete. The BIU controls: the flow of medium to the growth chamber; the temperature of the growth medium supply compartment; the temperature of the growth chamber compartment; and the concentration and flow rate of gases delivered to the gas chamber. The BIU also monitors the density of cells in the growth chamber and various safety/alarm parameters to assure that the cell expansion process is proceeding as expected.

The unit receives commands from keys on its front panel and communicates with the operator through a central BIU monitor module (BIUMM). An integral BIU display also provides information to the operator. Up to twelve biochamber incubation units can be connected to the monitor module. Each BIU has its own micro processor based control system and operates independently of the monitor module. As such, it will continue to function in the event of failure of the monitor module.

1.2.3. The inoculation/harvest unit (IHU) performs the initial filling of the biochamber cartridge with growth medium (supplemented with growth factors) and the inoculation of cells. The same unit also performs the removal of the cells from the growth chamber at the completion of the cell expansion process. The system design provides for the appropriate level of sterility assurance during the inoculation and harvest procedures.

1.2.3.1 During initial set up and fill, the operator loads the biochamber cartridge into the IHU, connects the medium supply (supplemented with growth factors) to the cartridge and transfer the medium to the internal reservoir. The operator is prompted to

manually inject the cells into the cartridge at the appropriate time. The process then continues under software control until the cartridge is ready to be placed in the biochamber incubation unit for cell expansion.

1.2.3.2. At the completion of the expansion process, the operator loads the biochamber back into the IHU, attaches the harvest reagents, and harvesting of the expanded cells proceeds under software control. At the completion of the harvest process, the expanded cell product is contained in a single bag to facilitate washing and preparation for direct infusion or cryopreservation.

1.2.4. The standard growth medium for the expansion of hematopoietic cells will be distributed as a separate item in packaging that will facilitate the addition of growth factors and glutamine followed by sterile connection to the biochamber cartridge just prior to use.

1.2.5. The harvest reagents needed for the process will be distributed as separate items in packaging that will facilitate an aseptic connection to the biochamber cartridge for cell harvest.

1.2.6. The system rack conveniently integrates several BIUs and a monitor module. The rack organizes connections to the facility and the inter connections between the various modules.

The Instrument consists of the components described in paragraphs 1.2.2 (BIU), 1.2.3 (IHU), and 1.2.6 (Rack).

EXHIBIT B

Functional Requirements and Specifications for the Instrument

(to be added per Section 1.2)

See generally Exhibit A. See also the SeaMED Project Plan, Drawing Number 908180, draft dated 2-2-94, which is incorporated herein. Additional functional requirements and specifications for the Instrument will be added by Aastrom during the course of the work.

EXHIBIT C

Time and Quantity Schedule --
Preproduction Units

Time Schedule:	Completion Date
Reliability prediction	*
Preliminary review with UL, CSA, TUV	*
Release of printed circuit board	*
Release of electro-mechanical subsystems and enclosures	*
Delivery of pre-production Units	
10 Biochamber Incubation Units	*
20 Biochamber Incubation Units	*
20 Biochamber Incubation Units	*
15 Inoculation/Harvest Units	*
15 Monitors	*
Software validation testing complete	*
Delivery of system racks	

Ouantity	Maximum Pre-production Units (Schedule E Pricing)
Biochamber incubation units	75
Biochamber incubation unit monitor modules	35
Inoculation harvest units	35
Rack	35

SeaMED hereby agrees to perform the tasks and to manufacture and deliver the units as specified above.

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EXHIBIT C-1

Pricing for Precommercial Units/1/

Material Cost	Actual Cost	xx
Material Burden	*	xx
Outpatient Services	Actual Cost	xx
Direct Labor, Assembly & Testing	* per direct hour of labor	xx
	Subtotal:	xxxx
Other Manufacturing	* of the above subtotal	x
	Total Cost:	xxxx
Total Price	* x Total Cost	xxxxx

*

_____

/1/ Subject to pricing methodology definitions and consideration for pricing schedule specified in Exhibit F, Section 4.1.

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EXHIBIT D

Manufacturing Drawings for the Instrument

(to be added per Section 2.1(e))

EXHIBIT E

COMPENSATION SCHEDULE FOR DESIGN WORK
AND MANUFACTURING PREPRODUCTION UNITS

1. Aastrom shall compensate SeaMED for SeaMED's design work and manufacturing work for the preproduction units on a "time and materials" basis. Engineering time will be billed at the rate of * per hour. Technician and drafting time will be billed at * per hour. Materials will be billed at the actual costs to SeaMED. SeaMED shall submit to Aastrom a monthly invoice for said design work and manufacturing work performed and the materials used, together with such supporting details as Aastrom may reasonably request. Aastrom shall pay said invoice within thirty (30) days after the invoice and supporting details are received by Aastrom. Aastrom will have full audit rights as to the costs charged by SeaMED.

2. SeaMED shall prepare and deliver to Aastrom a budget estimate for all of SeaMED's work, which budget shall be subject to the review and approval by Aastrom. On a monthly basis, SeaMED shall review with Aastrom any variations between the budget and the actual costs. On a periodic basis, SeaMED will review with Aastrom any recommended revisions to the budget which may be appropriate for responding to any changing circumstances, to best meet the needs of Aastrom, and to keep costs under control. All work by SeaMED shall be performed and charged within the limits of the budget approved by Aastrom, as said budget may be revised from time to time with Aastrom's Approval.

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EXHIBIT F

Summary of Manufacturing Agreement for Phase II

1. Specifications. Based upon the design work referenced in the Collaborative Product Development Agreement (the "Collaborative Agreement") and the Specifications and the Phase II Manufacturing Drawings and Process referenced in the Collaborative Agreement (collectively called the "Specifications and Drawings"), SeaMED shall manufacture and sell to Aastrom so many of the Instruments as Aastrom may order, with each Instrument being manufactured in accordance with the Specifications and Drawings. SeaMED shall manufacture the Instruments in conformity with then current applicable Good Manufacturing Practices (as described in Title 21 of the U.S. Code of Federal Regulations, Part 820), and any other applicable standards (UL, CSA, IEC and TUV) for manufacturing of the Instrument. SeaMED shall maintain its manufacturing facility, equipment and procedures so as to obtain and comply with ISO 9002 certification in accordance with the EC Medical Directives, and shall apply the EC mark to the devices intended for the European market.

2. Forecast of Orders. (to come later)

3. Schedule to Fill Orders. (to come later)

4. Price.

4.1 Initial Purchase Price. The following formula schedule is used to calculate the maximum initial purchase price for the Instrument.

Cost Components	Alternative Annual Sales Volumes		
	A 0-$1m	B $1m-$5m	C greater than $5m
Material Cost	Actual Cost	Actual Cost	Actual Cost
Material Burden	*	*	*
Outplant Services	Actual Cost	Actual Cost	Actual Cost
Direct Labor, Assembly and Testing (includes Direct Labor Rate and Direct Labor Overhead)	*/direct labor hour	*/direct labor hour	*/direct labor hour
Standard direct labor hours as of determined on Column A volume	*	*	*
Other Manufacturing	*	*	*
General and Administrative	*	*	*
Profit from Operations	*	*	*

Definitions used in the foregoing pricing methodology for the Aastrom Instruments are as follows:

Annual Sales Volume - Amount shipped in a 12 month period beginning

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with the first shipment.

Material Costs - Cost of raw material and purchased components.

Material Burden - Actual costs allocated in accordance with GAAP and associated with procurement, receiving inspection, stores handling, shop floor control, quality assurance, quality engineering, and facilities costs.

Outplant Services - Cost of outplant operations such as board stuffing, machining or plating.

Direct Labor, Assembly and Testing - Hours of time required to assemble and test all levels of the product.

Direct Labor Rate - Cost associated with one hour of direct labor at * hour, for Column A quantity pricing.

Direct Labor Overhead - Actual costs allocated to direct labor in accordance with GAAP associated with production, customer support, operations management, facilities, manufacturing engineering, quality assurance & quality engineering (at * hour for Column A quantity pricing).

Other Manufacturing Costs - Actual costs incurred for warranty, variances and inventory obsolescence. The percentage expressed is a percentage of the four cost categories.

Gen & Admin - Cost for G & A departments, (Finance, Marketing and Executive). The percentage expressed is a percentage of the purchase price.

Profit from Operations - SeaMED's normal profit margin (defined as net income before taxes). The percentage expressed is a percentage of the purchase price.

Considerations for pricing schedule:

(a) Material burden, other manufacturing, general and administration, and profit form operations rates are not to exceed rates at the level noted above, for the term of the Agreement.
(b) The volume criteria applies to total system purchases rather than being applied on a per Instrument basis; except the Assembly and Test percent decrease, which does apply on a per Instrument basis.
(c) These scheduled rates will be viewed as a ceiling (or capped price). It is the intention of both parties to move to a "fixed price" which will be negotiated, but will not exceed the "formula" or schedule.
(d) Aastrom has the full, open right to audit all costs and calculations associated with the rates, including cost allocations.
(e) SeaMED has the "good faith" obligation to obtain and provide the lowest possible price for materials.

Prior to the parties signing the Manufacturing Agreement, SeaMED shall prepare and deliver to Aastrom an itemized schedule of the direct costs for the number of units of the Instrument which Aastrom estimates will be purchased during the next six months. Once said price is mutually approved by Aastrom and SeaMED, it shall serve as a ceiling purchase price until changed pursuant to Section 4.2.

4.2 Price Adjustments. No more frequently than once in any six (6)

month period, either SeaMED or Aastrom may request a change in the purchase price based upon the pricing formula set forth in Section 4.1, to accommodate increased or decreased costs of manufacture, or increase or decrease in the number of units manufactured. Such request and change shall be based upon demonstrated increased or decreased costs of components or labor for the units manufactured and to be manufactured. If any costs of components or labor decrease during the term of this Agreement, or if the number of units manufactured is materially greater than the estimated number used for establishing the previous price, then SeaMED shall reduce the purchase price to reflect such changes. Similarly, if the costs of components or labor increase, or the number of units manufactured is materially less than the estimated number used for establishing the previous price, then SeaMED and Aastrom shall increase the price to reflect such changes. Any such price adjustments shall take effect sixty (60) days after agreement by the parties and shall be appended hereto as an additional exhibit.

5. Payment Terms. Aastrom shall pay SeaMED the invoiced price in U.S. dollars for each shipment of Instruments within thirty (30) days after the later of (i) the date the invoice is received by Aastrom, or (ii) the date the shipment of Instruments is made by SeaMED. Unless otherwise specified or required by law, all prices will be quoted and billed exclusive of federal, state, or local excise, sales, or other similar taxes. Although the parties do not expect any such taxes, if any such taxes are payable, they will appear as an additional item on the invoices.

6. Shipment and Risk of Loss. SeaMED shall deliver the Instrument FOB Bothell, Washington, for shipment to Aastrom's premises in Ann Arbor, Michigan, or to such other address as specified by Aastrom. Title and risk of loss shall pass to Aastrom upon SeaMed's delivery of the Instrument to a licensed carrier approved by Aastrom for shipment of the Instrument to Aastrom.

7. Inspection. Promptly after Aastrom receives a shipment of the Instruments, Aastrom shall inspect the Instruments to verify that they have been manufactured in accordance with the required Specifications and Drawings. Aastrom shall give prompt notice to SeaMED of any non-conforming Instrument, and SeaMED shall take all necessary actions to remedy and correct any non-conforming Instrument. Aastrom shall be entitled to delay payment for any non-conforming Instrument until it is fully corrected. If an instrument is found later to be non-conforming to the required Specifications and Drawings, the fact that Aastrom did not discover the non-conformance earlier shall not impair Aastrom's warranty rights under Section 9 below.

8. Manufacturing Process. SeaMED shall furnish to Aastrom copies of the documentation which fully describes in detail the manufacturing and testing processes, methods and techniques used to manufacture and test the Instrument, including without limitation, all items referenced in Section 6.3 of the Collaborative Product Development Agreement. As changes or improvements are contemplated in said manufacturing, the documentation describing the changes and improvements will be furnished to Aastrom for approval prior to implementation. SeaMED acknowledges that the Cell Expansion System is a PMA device and that changes to the manufacturing and testing process may require submission to FDA and FDA approval prior to implementation. Aastrom shall have the non-exclusive, royalty-free right to utilize (and to permit Aastrom's other suppliers to utilize) all of said manufacturing and testing processes, methods and techniques to manufacture and test the Instrument, irrespective of whether they were developed by Aastrom or SeaMED.

9. Warranty.

9.1 Manufacturer's Warranty. SeaMED warrants that the Instrument (i) shall be manufactured in full compliance with the Specifications and Drawings, (ii) shall be free from defects in material and workmanship, and (iii) shall be free from defects in design as to those specific elements for which SeaMED was primarily responsible for the design, as specified in the Project Plan, as amended, as referenced in the Collaborative Agreement. As to the elements of the instrument for which SeaMED was not primarily responsible for the design, SeaMED makes no warranty as to design. SeaMED further warrants that the manufacture,

assembly and delivery of the Instrument hereunder shall be in compliance with (a) all applicable federal, state and local laws, rules, regulations and executive orders, including without limitation, all of the employee compensation, health and safety and environmental laws applicable to SeaMED's facility, and all U.S. customs laws and regulations, and applicable regulations of the U.S. Food & Drug Administration ("FDA") and the European Community and Japanese equivalent of the FDA; and (b) performed in a professional, workmanlike manner in accordance with prevailing industry standards. SeaMED understands that Aastrom may sell the Instrument to hospital customers or other users. SeaMED agrees that the foregoing warranties are for the benefit of Aastrom and any ultimate end-user of the Instrument.

9.2 Limitation on Liability. SeaMED shall either repair or replace or provide to Aastrom full credit for the purchase price of any Instrument which is defective due to SeaMED's failure to comply with the foregoing warranty. Any such repair, replacement or credit shall be made within thirty (30) days after SeaMED takes receipt of the defective Instrument. All shipping and other costs incurred in connection with the repair or replacement of any defective Instrument shall be borne by and for the account of SeaMED. Except as specified in Section 11, SeaMED shall have no liability to Aastrom for any consequential damages or loss, including but not limited to loss of profits or goodwill, additional expenses incurred, or other damages.

9.3 Disclaimer of Warranties. EXCEPT FOR THE WARRANTIES SET FORTH IN SECTION 9.1, SEAMED DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

9.4 Aastrom's Warranty. Aastrom warrants that all elements of the Instrument for which SeaMED was not primarily responsible for the design shall be free from defects in design.

10. Records; Inspection. SeaMED shall keep full and complete records with respect to its manufacture of the Instrument, including all records of costs and purchase price adjustments. At Aastrom's request, SeaMED shall allow Aastrom or its designee to inspect and audit such records. Additionally, at Aastrom's request, SeaMED shall allow Aastrom to inspect the facility where the Instruments are manufactured, and to inspect any work in progress on the Instruments, for quality control purposes. Further, at Aastrom's request, SeaMED shall make available to Aastrom or its designee all information as Aastrom may reasonably request relating to the purchase of components and to the manufacture, assembly and shipment of the Instrument, and to the performance by SeaMED of its obligations hereunder.

11. Indemnification. Same as Section 8 in the Collaborative Agreement--applicable to the Instrument.

12. Obligation to Maintain Insurance. SeaMED agrees to provide and maintain at its sole expense comprehensive general liability insurance, including product liability insurance, covering bodily injury and property damage to third parties for accidents or injuries arising out of the use of the Instruments manufactured by SeaMED. Said insurance shall have a combined single limit of * per occurrence, as a total limit of liability for any one occurrence with respect to bodily injury and property damage, with a deductible of no higher than $25,000, and with no aggregate annual limit. SeaMED will furnish to Aastrom certificates of insurance evidencing that such insurance is in effect, and that Aastrom is named as an additional insured party thereunder. Such certificates shall provide that in the event such insurance should be materially adversely changed or terminated for any reason, the insurance company will give Aastrom thirty (30) days' prior written notice of such change or termination.

13. Exclusivity. Same as Section 9 of the Collaborative Agreement. Aastrom may establish a "second source" manufacturer.

14. Proprietary Information. Same as Section 10 of the Collaborative

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Agreement.

15. Term. The term of this Manufacturing Agreement shall continue for an initial term ending three years after the date of shipment by SeaMED of the first commercial unit of the Instrument. The term of this Agreement shall be renewed automatically after the initial term for an indefinite continuous term unless SeaMED gives a 24-month written notice not to renew, or unless Aastrom gives a six-month written notice not to renew. The renewed term of this Agreement may be terminated at any time by SeaMED giving a 24-month written notice of termination, or by Aastrom giving a six-month written notice of termination.

16. Default and Termination. Same as Section 12 of the Collaborative Agreement.

17. Miscellaneous. Same as Section 13 of the Collaborative Agreement.

18. Other.

a. Maintenance of Manufacturing Facilities, same as Section 2.3 of Collaborative Agreement and last two sentences in Section 1 above.

b. Records; Inspection, same as Section 7 of Collaborative Agreement.

EXHIBIT 10.13

COLLABORATIVE PRODUCT DEVELOPMENT AGREEMENT

Bioreactor Assembly
and
Tubing Kit

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Exhibits:
- --------

COLLABORATIVE PRODUCT DEVELOPMENT AGREEMENT

Bioreactor Assembly

and

Tubing Kit

This Agreement (the "Agreement") is entered into as of 11/8, 1994, by and between Aastrom Biosciences, Inc., a Michigan corporation ("Aastrom"), and Ethox Corp., a New York corporation ("Company").

RECITALS

A. Aastrom is in the final stages of research and development for a proprietary, manually operated, bioreactor assembly and custom tubing kit (collectively hereinafter referred to as the "Product" and individually referred to as the "Bioreactor" or the "Tubing Kit"). The Product is more fully described on Exhibit A attached hereto.

B. Aastrom has completed working prototype models of the Product; and Aastrom now needs to obtain pre-production units of the Product for laboratory and clinical evaluation.

C. Company has expertise and experience in the development and manufacture of medical products which are somewhat similar to the Product. Company is prepared to collaborate with Aastrom for completing the necessary design work on the Product to enable Company to manufacture the Product.

D. Company has prepared a Project Plan, attached hereto as Exhibit B, which specifies the Company's resources and activities to be applied and used for performing this Agreement. Said Project Plan includes Company's pricing and an estimate of the time, materials and costs for Company to perform under this Agreement as the design stood at the time on April 10, 1994. With changes in the design and specifications it is contemplated that Company pricing and estimates will be subject to change.

E. Aastrom has contracted with Roecker Design Group, and Aastrom may also contract with other design specialists for assistance with specified aspects of the Product (collectively called the "Other Design Contractors"), subject to the provisions hereof.

NOW, THEREFORE, the parties hereby agree as follows:

1. Responsibilities of Aastrom.

1.1 Project Management. Aastrom shall be responsible for overall project management relating to the development of the Product.

1.2 Specifications. Aastrom shall collaborate with Company and the Other Design Contractors on completing the design work for the Product. With assistance from Company as more fully described in Section 2 below, Aastrom shall develop the final specifications and functional requirements for the Product, including applicable test criteria (the "Specifications"). It shall be solely Aastrom's responsibility to assure that the Specifications are safe and effective and to make the decision that the Specifications are complete. Upon completion of the Specifications, Aastrom shall promptly provide Company with a copy of the Specifications, and if the parties mutually agree, the Specifications shall be attached as Exhibit C hereto. Prior to completion of the Specifications, the parties shall use the preliminary design specifications referenced on Exhibit C.

2. Responsibilities of Company.

2.1 Design Collaboration. Company shall collaborate with Aastrom and the Other Design Contractors to assist Aastrom in completing the design work for the Product. Company shall perform its responsibilities under this Agreement in accordance with the Project Plan attached hereto as Exhibit B; provided, however, it is understood that with changes in the design and specifications, it is contemplated that Company's pricing and estimates of time, materials and costs will be subject to change. Without limiting the foregoing, Company shall:

(a) Assist Aastrom with respect to planning for all manufacturing issues that are likely to arise in connection with the design work and development of the Product, including issues relating to the manufacturing process development and validation, component sourcing, and the creation of Device Master record documentation requirements.

(b) Prepare working drawings in accordance with the Specifications for manufacturing and testing the Product (the "Manufacturing Drawings"), which Manufacturing Drawings shall be owned by Aastrom and shall, subject to the prior written approval of Aastrom and Company, ultimately be attached hereto as Exhibit D. Said Manufacturing Drawings shall include the Device Master Record and (i) specifications for component parts to be acquired from specified vendors, (ii) drawings and specifications for component parts, (iii) test and acceptance procedures and criteria, (iv) subassembly specifications,

drawings and requirements, and (v) product specific manufacturing procedures, routing and processes. Said Manufacturing Drawings may reference general policies and procedures of Company, such as Company's quality system; and Company's general policies and procedures shall remain the property of Company. As modifications are made from time to time to the Manufacturing Drawings by mutual agreement, Company shall furnish to Aastrom an updated copy thereof.

(c) Prepare a gamma sterilization validation plan and conduct the required laboratory tests to achieve a 10/-6/ sterility assurance level for the Product.

(d) To the extent required for submittal to the U.S. Food and Drug Administration ("FDA") for Aastrom's IDE and/or PMA, prepare a detailed description of Company's manufacturing methods, processes, procedures and facility applicable to Aastrom's Product.

2.2 Delivery of Products. Following Aastrom's determination that the Manufacturing Drawings prepared by Company are in accordance with the Specifications, Company shall manufacture and deliver to Aastrom at its Ann Arbor, Michigan facility a number of the prototypes of the Products, in compliance with the Specifications and the Manufacturing Drawings, for use in clinical tests of the Product. The exact number of the Product to be manufactured, and the delivery schedule thereof, shall be as specified by Aastrom in separate purchase orders, subject to Company's approval, which approval will not be withheld unreasonably. Said purchase orders normally will be for 15 units of the Bioreactor at a time, with delivery to be within three weeks, and for 150 units of the Tubing Kit at a time, with delivery to be within eight weeks. The pricing on said purchase orders shall be in accordance with the pricing set forth in Exhibit B; provided, however, it is understood that with changes in the design and specifications, it is contemplated that Company's pricing and estimates of time, materials and costs will be subject to change. As Aastrom's tests of the Product proceed, and depending on the outcome of those tests, Aastrom may place additional purchase orders for the same or larger lot sizes of the Product; and Company shall manufacture and sell said additional units of the Product on the same terms and conditions as set forth above.

2.3 Maintenance of Adequate Facilities and Manufacturing Practices. Company shall maintain adequate personnel and facilities to perform its obligations under this Agreement. Company shall manufacture and assemble all of the Product in an environment where good manufacturing practices ("GMP") are followed. Inasmuch as Company's FDA facility registration and inspection record are extremely important to Aastrom's ability to obtain prompt FDA approval for the Product, Company hereby agrees to use its best efforts to maintain in good standing all appropriate FDA facility registrations and inspection records. Company shall immediately report to Aastrom in writing any adverse events, circumstances, or potential problems relating to Company's FDA registrations and inspections that

could adversely affect availability or approval of the Product. Company shall allow Aastrom and its agents (such agent to be acceptable to Ethox, with approval not to be unreasonably withheld) to review and inspect Company's facilities, FDA compliance files, and correspondence to and from the FDA regarding inspections, registrations, and audits that pertain to the Product or the Aastrom's regulatory submission. To the extent Aastrom shall determine that European Economic Community standards apply to Company's facility and manufacturing practices for units of the Product to be used in Europe, Aastrom will provide details of said standards to Company, and Company shall make every reasonable effort to comply with said standards.

2.4 No Subcontracting. No part of Company's obligations under this Agreement which are being subcontracted by Company will be changed without Aastrom's approval if such change would impact Aastrom's FDA approval, without the prior written approval of Aastrom.

2.5 Inventory Insurance. All inventory of components and materials purchased by Company to make the Products shall be owned by Company and shall be insured against risk of loss by Company. Any components and materials purchased by Aastrom and delivered to Company for Company to use to make the Products shall be covered by Company's insurance policy for risk of loss while said items remain in Company's facility.

2.6 Transit. Company shall arrange for shipment of the Products by a common carrier approved by Aastrom, to a destination specified by Aastrom. The costs of shipment and insurance during transit shall be borne by Aastrom. Title and risk of loss to the Products shall pass from Company to Aastrom when the Products are delivered to a common carrier for shipment to Aastrom's designation.

2.7 Financial Condition. Company and Aastrom shall each give written notification to the other of any material adverse financial condition affecting either, including without limitation the lack of resources available to enable either to fully and promptly perform its obligations under this Agreement on schedule, and any other conditions which may jeopardize or impair the full and prompt performance by either of its obligations under this Agreement. Said notification shall be given within five (5) days after the occurrence or realization of said adverse condition.

3. Acceptance Procedures. Delivery of each unit of the Product shall be deemed accepted by Aastrom unless Company is notified in writing of Aastrom's rejection of such delivery within thirty (30) days after the delivery date due to a non-conformance with the Specifications and/or the Manufacturing Drawings (which shall include acceptance criteria). In such case, Aastrom shall advise Company of Aastrom's acceptance criteria and the details of how Aastrom believes that there has been a non-conformance. In the event Company receives

such notice and advise, Company shall diligently attempt to promptly resolve any such non-conformance. In the event Company cannot resolve any such non-conformance and deliver a Product that conforms to the Specifications and the Manufacturing Drawings within a time period not to exceed six (6) weeks of receipt of such notice, Aastrom may pursue remedies pursuant to Section 12 below.

4. Compensation. Aastrom shall compensate Company for Company's assistance, manufacture and assembly of the Products on a "time and materials" basis, as further described on Exhibit B. Company shall submit to Aastrom a monthly invoice for said work, together with such supporting details as Aastrom may reasonably request. Aastrom shall pay said invoice within thirty (30) days after the invoice and supporting details are received by Aastrom.

5. Company's Warranty. Company warrants that each unit of the Product shall comply in all respects with the Specifications and the Manufacturing Drawings and shall be free from defects in material and workmanship. Company shall either repair or replace or provide to Aastrom full credit for the purchase price of any Product which Aastrom finds to be defective due to Company's failure to comply with said warranty. If credit is not given by Company, then any such warranty repairs or replacements shall be completed within a time period not to exceed six (6) weeks of the date on which Company receives notice of any such non-compliance. All shipping and other costs incurred in connection with the repair or replacement of any such non-complying Product shall be for the account of Company. Company further warrants that the manufacture, assembly and delivery of the Products hereunder shall be (i) in compliance with all applicable federal, state and local laws, rules, regulations and executive orders known or reasonably expected to be known by Company, and (ii) performed in a professional, workmanlike manner in accordance with prevailing industry standards.

THE WARRANTIES SET FORTH IN THIS SECTION 5 ARE EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

6. Records; Inspection. Company shall keep accurate and complete records with respect to its work and manufacture of the Product to the extent necessary to attempt to satisfy any FDA requirements and to verify the time worked and material costs invoiced by Company to Aastrom. At Aastrom's request, Company shall allow Aastrom or its accountant to inspect and audit such records. Additionally, at Aastrom's request, Company shall allow Aastrom and/or Aastrom's consultant (such consultant to be subject to Ethox's approval, and such approval will not be unreasonably withheld) to inspect the facility where the Products are manufactured. All inspections shall be upon reasonable notice and during regular business hours and shall require execution of confidentiality agreements satisfactory to Company.

7. Patent Infringement; Insurance.

7.1 Patent Infringement. Aastrom shall indemnify and hold Company harmless from any loss, damage, or cost (including reasonable attorneys' fees and expenses) arising from any claim that the Product or its operation infringes a United States patent, trademark, copyright, or other proprietary right, including trade secrets. In the event any lawsuit for which indemnity is applicable, Aastrom will control the defense and selection of defense counsel, and Company will be entitled to participate therein (at Company's expense) by selecting co-counsel reasonably satisfactory to Aastrom. Aastrom shall have the right to direct and control such defense, to settle any dispute. Company shall be responsible for payment of any settlement to which Company has consented, and such consent shall not be unreasonably withheld. In conducting the defense and negotiating any settlement, Aastrom's counsel shall give due consideration to suggestions of Company's co-counsel.

7.2 Insurance. Company and Aastrom shall each provide and maintain $1 million comprehensive general liability insurance and product liability insurance . Company will furnish to Aastrom, and Aastrom will furnish to Company, certificates of insurance evidencing that such insurance is in effect. Aastrom's requirement hereunder is contingent upon its successful obtaining of such coverage.

8. Exclusivity.

8.1 Continuing Prohibition. At all times both during and after the term of this Agreement, Company shall not make or sell, or enable others to make or sell, the Product which is the subject of this Agreement, excepting only for making and selling the Product for Aastrom.

8.2 No Similar Product. During the term of this Agreement, (i) Company shall not manufacture, assemble, produce, ship or in any other way make available for use or distribution, by any party other than Aastrom, any product or system which is functionally similar to the Product, and (ii) Company shall not in any way accept engagement with, or render service to, any other individual, firm or corporation, as a consultant, instructor, expert, designer, manufacturer or producer, or act in any other capacity, which engagement or rendition of services involves the development or production of any product or system which is functionally similar to the Product. As used in this section, a hematopoietic stem cell expansion product or system is not "functionally similar" if it utilizes distinctly different methods or distinctly different disposable components than are utilized for Aastrom's Product.

8.3 Disclosure. Company advises Aastrom that Company is currently manufacturing a line of products referred to as the Stericell product line which are used for cell culture, and a product named Stempak which is utilized for

stem cell processing. In addition, Company has contract relationships, and is working with other companies to develop relationships, for cell processing devices which, to the best of Company's belief, function in a significantly different manner than Aastrom's Product.

9. Ownership of Technology; Confidentiality.

9.1 Ownership of Technology.

(a) Except as set forth in Section 9.1(c) below, Aastrom shall retain and own all right, title, and interest in any invention, technology or development, whether or not patentable, which it now has or which arises in connection with the Product during the course of the Company's performance of this Agreement. Any invention made by Company in connection with Company's work with the Product, which invention is an improvement or variation to the Product, shall be owned by Aastrom and assigned to Aastrom by Company. Company shall cooperate with Aastrom and take all steps reasonably required, including executing assignments, to aid Aastrom in securing any patent or other protection which may be appropriate, and Aastrom shall bear the expense in connection therewith.

(b) All tools and tooling which were paid for by Aastrom (either separately or as part of the price for the Product sold by Company to Aastrom) shall be owned by Aastrom. The Manufacturing Drawings (including the device master records) shall be owned by Aastrom.

(c) Company shall retain all of its right, title, and interest in and to its proprietary knowledge in fabrication methods which it currently has, and in and to such additional knowledge in fabrication methods Company may develop at its sole expense (and for which Aastrom is not invoiced) as a part of the Company's performance of this Agreement. As to any fabrication methods developed by Company from efforts for which Aastrom is invoiced, said fabrication methods shall be deemed developed for Aastrom as a "work for hire," and Aastrom shall have sole ownership thereof. Company shall retain a royalty free license to make, use, sell or otherwise promote any such fabrication methods which are developed by Company but owned by Aastrom, so long as such undertaking does not directly or indirectly cause competition to Aastrom products or business activities.

9.2 Confidential Information. The parties recognize that during the course of Company's performance of this Agreement, it may be necessary that either or both parties be given access to certain Confidential Information of the other. The following subparagraphs shall be applicable to such Confidential Information and the words "Recipient" and "Disclosing Party" shall be

interchangeable as between Aastrom and Company as appropriate under the circumstances.

(a) Title to Confidential Information and Related Documents.

Recipient hereby acknowledges that the Confidential Information and all related documents, drawings, sketches, designs, products, or samples disclosed or furnished hereunder are the sole and exclusive property of Disclosing Party. Recipient hereby agrees to return all such documents, drawings, sketches, designs, products, or samples furnished to it hereunder, together with all copies thereof except for one archive copy, promptly upon the request of Disclosing Party.

(b) Nondisclosure or Use of Confidential Information. Recipient

hereby agrees that it shall hold all Confidential Information disclosed to it in strict confidence, that it will use the same only for the purpose of performing this Agreement and for no other purpose whatsoever, and that it will not disclose the same to any third parties (except to its employees to the extent such disclosure is necessary for purposes of performing this Agreement) except to the extent Disclosing Party agrees to in writing.

(c) Protection of Confidential Information. Recipient agrees that

it will observe reasonable precautions and procedures to protect and preserve all Confidential Information and related documents, drawings, sketches, designs, products, or samples disclosed or furnished to it hereunder, using such precautions which shall be no less rigorous than those used by Recipient to protect its own trade secrets and confidential data. In addition, Recipient warrants that it has or will obtain written agreements of confidentiality with its employees for the protection of information of the subject nature both during and after employment.

(d) Confidential Information. "Confidential Information" as used

herein shall mean all information, discoveries, inventions, improvements or innovations which are maintained as confidential by the party having the same. Provided, however, Confidential Information shall not include information, discoveries, inventions, improvements, or innovations (a) which at the time of disclosure is a part of the public domain; (b) which subsequently becomes a part of the public domain by publication or otherwise through no fault of Recipient; (c) which Recipient can show was contained in its possession at the time of disclosure; (d) which is subsequently disclosed to Recipient by a third party not in violation of any rights of, or obligations to, Disclosing Party; or (e) which is disclosed in a patent or publication anywhere.

9.3 Other Design Contractors. To the extent any Confidential

Information of Company is to be furnished to the Roecker Design Group or any Other Design Contractors, it shall be the obligation of Aastrom to provide Company with confidentiality agreements executed by such design contractors, and said confidentiality agreements shall be in a form reasonably acceptable to Company.

9.4 Privacy of Agreement. Neither party shall make any reference to this Agreement or any provision hereof in any publicly disseminated literature, printed matter, or other publicity issued by or for it, except (i) as required by law, (ii) in connection with a public or private offer or sale of securities, a business collaboration or transaction, or a governmental or industry regulatory communication, or (iii) in a fashion and at a time mutually agreed upon by both parties after the execution of this Agreement. After release of the product for commercial sale, Company may add Aastrom to Company's list of customers and may show external product photographs for marketing purposes, and Aastrom may add Company to Aastrom's list of vendors and subcontractors.

10. Term. The term of this Agreement shall commence on the date first written above and shall continue in full force and effect until completion of Aastrom's need for the Products, or until terminated as set forth herein. Either party may terminate this Agreement without cause upon at least six (6) months' prior written notice. Upon any termination of this Agreement, (i) both parties shall fully perform all of their obligations accruing up through the date of termination and (ii) Company will immediately deliver to Aastrom the Manufacturing Drawings, all tools and tooling owned by Aastrom, and any prototypes, components, information, and work-in-process related to the Product. Additionally, to the extent applicable, the obligations under Sections 5, 6, 7, 8, 9 and 12 shall survive any termination of this Agreement.

11. Default and Termination.

11.1 Breach. The occurrence of any one or more of the following events shall constitute an event of default hereunder, and upon the expiration of any applicable time period for a cure, shall constitute a breach of this Agreement, giving rise to the rights identified in Section 11.2 hereof:

(a) If Aastrom shall default hereunder in the payment of funds when due and such default continues for a period of thirty (30) days after written notice thereof;

(b) If either party fails to faithfully perform or observe any agreement or condition to be performed by such party, and if such default continues for a period of thirty (30) days after written notice thereof, specifying the nature of such default;

(c) If any proceeding is commenced by or for either party under any of the bankruptcy laws, or if either party is adjudged insolvent by any court, makes an assignment for the benefit of creditors, or enters into a general extension agreement with creditors;

(d) If Company shall breach its obligation to timely give credit for or to repair any non-conforming Product prototype pursuant to Section 3; or

(e) If either party shall breach its obligations set forth in Sections 8 or 9 hereof.

11.2 Remedy. In addition to all rights and remedies provided under law, the nondefaulting party shall have the right, in the event of default, to terminate this Agreement and any obligations imposed on such nondefaulting party hereunder, provided, however, that, to the extent applicable, the obligations under Sections 5, 6, 7, 8, 9, and 13 shall survive any termination of this Agreement.

12. Miscellaneous.

12.1 Independent Contractors. The relationship between Aastrom and Company hereunder shall be that of independent contractors, and nothing in this Agreement shall be deemed to constitute a joint venture, partnership, agency or employer/employee arrangement between the parties. Neither party shall have any authority or power to bind the other party or to contract in the name of, or make any representations or warranties, express or implied, on behalf of the other party, or otherwise create any liability against the other party in any way for any purpose.

12.2 Causes Beyond Control. The parties hereto shall not be responsible for any loss or breach due to delay in delivery or performance hereunder caused by governmental regulations, controls or directions, outbreak of a state of emergency, hostilities, civil commotion, riots, epidemics, acts of God, other natural casualties, fires, strikes, walkouts or other similar cause or causes beyond the control of the parties. In the event that any party shall be delayed in, or prevented from, performing its obligations under this Agreement as a result of any of the foregoing, such party shall promptly notify the other party of such delay or cessation in performance. In the event that such party is unable to resume performance hereunder within sixty (60) days of the date on which its performance was suspended, the other party shall have the right to terminate this Agreement upon ten (10) days prior written notice.

12.3 Successors and Assigns. Neither party shall have a right to assign, transfer or otherwise dispose of its rights under this Agreement or to assign the burdens hereof, without the prior written consent of the other party. Notwithstanding the foregoing, the rights and obligations of a party shall automatically transfer to a successor entity, without the need for any consent, in the event of a merger between the party and the successor, or in the event of a sale of substantially all of the assets of that party to the successors.

12.4 Applicable Law. The construction of this Agreement, and the rights and liabilities of the parties hereto, shall be governed by the laws of the State of Michigan.

12.5 Severability. Each term, condition or provision of this Agreement shall be viewed as separate and distinct, and in the event that any such term, condition or provision shall be held by a court of competent jurisdiction to be invalid, the remaining provisions shall continue in full force and effect.

12.6 Entire Agreement; Modification and Waiver. This Agreement contains the entire agreement and understanding between the parties and supersedes all prior agreements and understandings between them relating to the subject matter hereof. This Agreement may not be amended or modified except by an instrument in writing, signed by duly authorized representatives of both parties. The waiver, express or implied, by any party of any right hereunder or of any failure to perform or breach hereof by any other party shall not be deemed to constitute a waiver of any other right hereunder or of any claim in respect of any other failure to perform or breach.

12.7 Counterparts. This Agreement may be executed in counterparts all of which together shall constitute one and the same instrument.

12.8 Dispute Resolution. Any controversy or claim arising out of or relating to this Agreement, or the breach or interpretation hereof, shall be resolved through good faith negotiation between the principals of the parties hereto. Any controversy or claim not resolved by mutual agreement shall be submitted to binding arbitration in Cleveland, Ohio, or in such other city as the parties may mutually agree, in accordance with the rules of the American Arbitration Association ("AAA") as then in effect; and judgment upon the award rendered in such arbitration shall be final and may be entered in any court having jurisdiction thereof. Notice of the demand for arbitration shall be filed in writing with the other party to this Agreement and with the AAA. In no event shall the demand for arbitration be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations. This agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The party most prevailing in said arbitration, as determined by the arbitrator based upon the parties' respective claims and positions, shall be entitled to recover from the non-prevailing party all attorneys' fees and other costs incurred in connection with the arbitration proceeding.

12.9 Notices. All notices and other communications permitted or required under this Agreement shall be in writing and shall be deemed to have been given when received at the addresses set forth on the signature page hereof, or at such other address as may be specified by one party in writing to the other.

Said written notice may be given by mail, telecopy, rush delivery service, personal delivery or any other means.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

AASTROM:

AASTROM BIOSCIENCES, INC.
a Michigan corporation

By:
Name: /s/ R. DOUGLAS ARMSTRONG
Title: President/CEO
Address: P. O. Box 376
Ann Arbor, MI 48106
Attn: James Maluta
Fax: (313) 665-0485

COMPANY:

ETHOX CORP.
a New York corporation

By: /s/ FRANK P. WILTON
Name: Frank P. Wilton
Title: President
Address: 251 Seneca Street
Buffalo, NY
Attn: Frank P. Wilton
Fax: (716) 842-4040

EXHIBITS

A	Description of Product (Bioreactor Assembly and Custom Tubing Kit)
B	Company's Project Plan
C	Specifications for the Product
D	Manufacturing Drawings for the Product

EXHIBIT A

Description of Product

*

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SEPARATELY WITH THE COMMISSION

EXHIBIT B

Company's Project Plan

(Recital D)

1. Ethox Corp. is an independent, integrated manufacturer of disposable medical devices. Attached to this exhibit is a copy of the company's corporate brochure and booklet describing its sterilization and microbiological laboratory activities. In addition, attached is a summary sheet describing the techniques and materials with which Ethox routinely works. We believe that this information accurately describes the company's resources and activities.

2. Also attached to this exhibit is an updated and revised Exhibit B which was prepared by Ethox at the request of Aastrom including quotations/estimates for the fabrication of the Bioreactor, bag and tube sets, design engineering and Bioreactor and tube/bag set gamma sterilization validation. Because of changes in the materials and the design of the sets, this document is no longer current and accurate.

3. At the present time, Ethox is working with Aastrom on a time and materials basis for both the fabrication of the Bioreactors and the tube/bag sets.

4. At a future date when the design of the Bioreactors and tube/bag sets is frozen, Ethox will be in a position to submit pricing and estimates on future builds of these devices.

*

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EXHIBIT B
(Continued)

EXHIBIT C

Time and Quantity Schedule --
Preproduction Units

	Completion Date
Time Schedule:	
Reliability prediction	*
Preliminary review with UL, CSA, TUV	*
Release of printed circuit board	*
Release of electro-mechanical subsystems and enclosures	*
Delivery of pre-production units	
10 Biochamber Incubation Units	*
20 Biochamber Incubation Units	*
20 Biochamber Incubation Units	*
15 Inoculation/Harvest Units	*
15 Monitors	*
Software validation testing complete	*
Delivery of system racks	*

	Maximum Pre-production Units (Schedule E Pricing)
Quantity:	
Biochamber incubation units	75
Biochamber incubation unit monitor modules	35
Inoculation harvest units	35
Rack	35

SeaMED hereby agrees to perform the tasks and to manufacture and deliver the units as specified above.

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EXHIBIT C-1

Pricing for Precommercial Units/1/

Material Cost	Actual Cost	xx
Material Burden	*	xx
Outpatient Services	Actual Cost	xx
Direct Labor, Assembly & Testing	* per direct hour of labor	xx
	Subtotal:	xxxx
Other Manufacturing	* of the above subtotal	x
	Total Cost:	xxxx
Total Price	* x Total Cost	xxxxx
	*	

_____

/1/ Subject to pricing methodology definitions and consideration for pricing schedule specified in Exhibit F, Section 4.1.

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EXHIBIT D

Manufacturing Drawings (Device Master Record)
for the Product

AASTROM BIOREACTOR PROJECT
DESIGN STATUS AS OF 9/26/94

Device Master Records for Aastrom Products: (With EC Level)

950083700	Bioreactor (P4885)	950083200	Waste Bag Assy (4841)
950083300	Harvest Bag Assy (4841)	950083000	Stopcock & Filter Assy (4841)
950083500	Harvest Reagent Assy (4841)	950086400	Media Supply Tube (Blank)
950083100	Prime Tube Assy (4841)	950086500	Gas Supply Tube (Blank)

Raw Material Specifications For The Bioreactor Parts:

302601700	Top	302602600	Retaining Ring
302602300	Cell Bed	505045800	Bioreactor Label
302602400	Base	202258501	Packing Tube
302601800	Center Port	666705100	Header Bag
302601900	Membrane	302513900	Bubble Pack
302602000	Perimeter O-Ring	555786200	Ctn. Label
302602100	Center O-Ring	689580000	Carton
302602500	Cell Bed O-Ring	302601500	Perimeter Screw
302602200	Hex Nut	302601600	Perimeter Clamp
302543500	Male Luer Cap		

Bioreactor Drawings (Ethox Drawing Numbers):

Bioreactor Top	D-4793 Rev. Blank
Bioreactor Center Port	D-4794 Rev. Blank
Bioreactor Top	D-4795 Rev. Blank
Bioreactor Base	D-4796 Rev. Blank
Bioreactor Isometric	D-4797 Rev. Blank
Bioreactor Packaging	D-4798 Rev. Blank
Bioreactor Mfg. Flow Chart	C-4911 Rev. Blank

Tube Set Drawings:

Waste Bag	C-4726 Rev. A
Harvest Bag	C-4727 Rev. C
Stopcock & Filter Assy	B-4728 Rev. B
Prime Tube Assy	C-4729 Rev. A
Waste Bag Assy	C-4730 Rev. D
Harvest Bag Assy	C-4731 Rev. D
Harvest Reagent Tube Set	C-4733 Rev. C
Media Supply Tube Set	C-4909 Rev. A
Gas Supply Tube Set	B-4910 Rev. A
Mixing Y	B-4721 Rev. A
Winged Adapter	B-4722 Rev. A
Male luer Adapter	B-4723 Rev. A

Tooling Drawings

Waste Bag Periph #1	C-4719 Rev. Blank
Waste Bag Flange Tool	C-4932 Rev. Blank
Waste Bag Periph (Proto)	D-4929 Rev. Blank

MANUFACTURING/PROCESSING TECHNOLOGIES AND MATERIALS
CURRENTLY BEING PROCESSED AND UTILIZED BY ETHOX CORP.

A. Manufacturing/Processing Technologies

*

B. Materials Processed and Utilized

*

[LOGO OF ETHOX CORP. APPEARS HERE]

*CONFIDENTIAL PORTION REDACTED AND FILED SEPARATELY WITH THE COMMISSION

EXHIBIT 10.14

LICENSE AND SUPPLY AGREEMENT

This License and Supply Agreement, effective as of April 1, 1996, (the "Effective Date") is made by and between Aastrom Biosciences, Inc., a Michigan corporation having its principal place of business at Lobby L, Domino's Farms, Ann Arbor, Michigan 48106 ("AASTROM") and Immunex Corporation, a Washington corporation having its principal place of business at 51 University Street, Seattle, Washington 98101 ("IMMUNEX").

AGREEMENT

In consideration of the mutual covenants and undertakings set forth herein, IMMUNEX and AASTROM hereby agree as follows:

1. BACKGROUND

1.1 Development and Supply of Products and Technology.

IMMUNEX has discovered and developed Cytokines (Pixykine(R) PIXY321, Flt3 ligand and Leukine(R) GM-CSF) and enzyme-linked immunoassay ("ELISA") reagents for the Cytokines ("Ancillary Materials"), that are collectively referred to herein as "Supplied Products," and certain cell culture technology, that together with Supplied Products are "Licensed Technology," and is the owner of certain patent rights relating to the Licensed Technology ("Licensed Patent Rights") that may be useful in or relate to the field of extracorporeal cell culture and transplantation ("ECCAT"). IMMUNEX intends to supply AASTROM with Supplied Product and to provide a nonexclusive license to AASTROM to the Licensed Technology and Licensed Patent Rights for Supplied Product purchased by AASTROM, subject to the terms of this Agreement.

1.2 Purchase and Use of Supplied Product and Licensed Technology.

AASTROM is a developer of certain ECCAT systems (instrumentation and single-use plastic disposables operated by the instrumentation, referred to herein as the "Systems") and desires to purchase Supplied Products from IMMUNEX for distribution, sale and use with the Systems. AASTROM also desires access to the Licensed Technology and Licensed Patent Rights to make, use and sell the Systems and services incorporating the Licensed Technology or otherwise covered by the Licensed Patent Rights.

2. DEFINITIONS

2.1 All initially capitalized terms shall have the meanings specified below:

"Affiliate" shall mean any entity that directly or indirectly controls, is controlled by or is under common control with a party to this Agreement. The term "control" as used herein shall mean the possession of the power to direct or cause the direction of the management and the policies of an entity, whether through the ownership of a majority of the outstanding voting securities or by contract or otherwise.

"Ancillary Materials" shall mean ELISA reagents that are useful in assay or quantification of Cytokines, and other materials made available by IMMUNEX to AASTROM to facilitate use of Licensed Technology.

"Calendar Quarter" shall mean each three-month period commencing January 1, April 1, July 1 and October 1 of each year during the Term.

"Calendar Year" shall mean each twelve-month period commencing the first Calendar Quarter following the Effective Date of each year during the Term.

"Confidential Information" shall mean any and all proprietary or confidential information owned by AASTROM or IMMUNEX that is provided to the other party. Confidential Information shall not be deemed to include information that:

(a) is or becomes known publicly through no fault of the recipient;

(b) is learned by the recipient from a Third Party entitled to disclose it;

(c) is developed by the recipient independently of information obtained from the disclosing party;

(d) is already known to the recipient before receipt from the disclosing party, as shown by prior written records; or

(e) is released with the prior written consent of the disclosing party.

"Cytokine" shall mean an IMMUNEX cytokine product identified in Exhibit B.

"Effective Date" shall mean the date set forth in the first paragraph of this Agreement.

"FDA" shall mean the United States Food and Drug Administration or any successor agency vested with administrative and regulatory authority to approve testing and marketing of human pharmaceutical or biological therapeutic products in the United States.

"Field" shall mean development, manufacture, testing, use and sale of systems, techniques, equipment, devices and associated technologies for explanation, separation, culture, testing and transplantation of cells, referred to collectively as "extracorporeal cell culture and transplantation" ("ECCAT"). The Field excludes all parenteral or in-vivo uses of Cytokines or Supplied Products, which are expressly reserved to IMMUNEX.

"Force Majeure" shall mean any act of God or the public enemy, any accident, explosion, fire, storm, earthquake, flood, drought, peril of the sea, riot, embargo, war or foreign, federal, state or municipal order issued by a court or other authorized official, seizure, requisition or allocation, any failure or delay of transportation, shortage of or inability to obtain supplies, equipment, fuel or labor or any other circumstance or event beyond the reasonable control of the party relying upon such circumstance or event; provided, however, that no such Force Majeure circumstance or event shall excuse any failure or delay beyond a period exceeding one hundred eighty (180) days from the date such performance would have been due but for such circumstance or event.

"GMP" shall mean the regulatory requirements for good manufacturing practices promulgated by the FDA under the Federal Food, Drug and Cosmetic Act, as amended, 21 C.F.R. et seq.

"Improvement" shall mean any invention or improvement involving a Cytokine or Licensed Technology that is made by employees of AASTROM, whether solely or jointly with employees of IMMUNEX.

"Licensed Patent Rights" shall mean the patents and patent applications identified in Exhibit A; any divisional, continuation or continuation-in-part applications that

claim priority based upon such applications; any patents that issue in respect of the foregoing applications; and any reissues or extensions of such patents, and any other patents or patent applications owned or controlled by IMMUNEX that are necessary and useful to permit AASTROM to use and sell Licensed Technology in the Field.

"Licensed Technology" shall mean the Cytokines, Ancillary Reagents, and any related technology, know-how, data, information and results that IMMUNEX has a right to disclose or transfer to AASTROM, and that is necessary or useful to permit AASTROM to use the Cytokines or Ancillary Materials and is transferred to AASTROM.

"Licensed Trademarks" shall mean Cell Software(TM), Leukine(R) and Pixykine(R).

"Manufacturing Regulatory Documentation" shall mean a Drug Master File or other Regulatory Filing owned by IMMUNEX and filed with the FDA that contains definitive technical information concerning a Supplied Product.

"Order" shall mean each quantity of a Supplied Product sold to AASTROM under a separate invoice.

"Person" shall mean any individual, partnership, corporation, firm, association, unincorporated organization, joint venture, trust or other entity.

"Purchase Order" shall have the meaning specified in Section 3.9 hereof.

"Regulatory Filing" shall mean a filing with a regulatory agency, for example, the FDA, that concerns a Cytokine or use of a Cytokine in the Field.

"Supplied Product(s)" shall mean Cytokines and Ancillary Materials produced by IMMUNEX for AASTROM; or, as permitted under this Agreement, produced by AASTROM or a Third Party.

"Supply Price" shall mean the price paid by AASTROM to IMMUNEX to obtain Supplied Product for sale or distribution to end users of Licensed Technology.

"Systems" shall mean AASTROM's ECCAT systems, consisting of certain instrumentation and single-use plastic disposables for use with the instrumentation, as well as any related documentation.

"Territory" shall mean North America, consisting of the United States of America and Canada, and their respective territories and possessions.

"Third Party" shall mean any Person other than a party to this Agreement or an Affiliate.

3. SUPPLY AND USE OF MATERIALS

3.1 Supply of Supplied Products. Subject to the terms of this Agreement, IMMUNEX shall manufacture and sell to AASTROM, and AASTROM shall purchase exclusively from IMMUNEX, AASTROM's requirements of the Supplied Products for sale or use by AASTROM in conjunction with the Systems. AASTROM shall not be obligated to purchase its requirements of GM-CSF from IMMUNEX in countries other than the United States. All Supplied Products shall be sold and delivered to AASTROM in the Territory, and all sales shall be deemed to have been made in the United States.

3.2 Supply Price. The Supply Price applicable to the Supplied Products to be sold by IMMUNEX to AASTROM pursuant to Section 3.1 hereof shall be that set forth in Exhibit B, which is attached hereto and made a part of this Agreement.

3.3 Supply of Research Quantities of Cytokines for Preclinical Research. IMMUNEX shall provide reasonable research quantities of Cytokines and Ancillary Materials to AASTROM solely for AASTROM's own use in preclinical research, and not for resale or distribution to any other Person, at no charge to AASTROM.

3.4 Technical Assistance. Upon request and at no charge, IMMUNEX shall make its employees available (at their normal places of employment or by telephone) to provide reasonable levels of technical assistance to AASTROM concerning AASTROM's use of the Supplied Products or AASTROM's preparation of Regulatory Filings.

3.5 Regulatory Filings. AASTROM shall file and be the owner of record for all Regulatory Filings developed by AASTROM applicable to use of Supplied Products with the Systems. IMMUNEX shall permit AASTROM to cross-reference its Drug Master Files and Regulatory Filings to enable AASTROM to complete Regulatory Filings applicable to the Systems. IMMUNEX owns, and shall retain all right, title and interest in and to the Manufacturing Regulatory Documentation, and any other Regulatory Filing prepared and submitted by IMMUNEX to obtain or maintain regulatory approval of a Supplied Product. Each party shall, upon request and at no charge to the other, reasonably cooperate with and assist the other in preparing Regulatory Filings. Such cooperation shall extend to reasonable consultation by telephone or at the cooperating party's normal business location, but shall not include preparation of Regulatory Filings for the other party. All nonpublic information provided by one party to the other in preparing Regulatory Filings shall be deemed to be Confidential Information of the disclosing party. AASTROM's or IMMUNEX's right to cross-reference any Regulatory Filings owned by the other shall not extend to any Confidential Information of any Third Party that may be incorporated into a Regulatory Filing.

3.6 Clinical Studies. AASTROM shall be independently and solely responsible for the design, implementation and evaluation of any human clinical studies used to obtain clinical data for use in preparing Regulatory Filings. AASTROM shall provide IMMUNEX with a complete copy of any clinical study protocol in which Supplied Products are used, as well as copies of any final abstracts or publications concerning the results of such study. AASTROM shall report any serious and unexpected adverse event that occurs in a clinical study involving Supplied Products. This report shall be provided by telephone or fax to the Professional Services Department at IMMUNEX (fax: 800-221-6820) as soon as possible and shall be confirmed and updated in writing within 24 hours after occurrence.

3.7 Manufacture of Product for Clinical Studies and Commercial Sale. During the term of this Agreement, and for an additional one year period if IMMUNEX notifies AASTROM that it will not renew the Agreement under Section 8.7, and for two additional years should IMMUNEX cease supply per the terms of this Agreement under Section 3.19, IMMUNEX shall use reasonable commercial efforts to manufacture all of the requirements of AASTROM for each Supplied Product and release all quantities ordered by AASTROM in the Calendar Quarter specified in each accepted Purchase Order. IMMUNEX's supply obligations shall be limited in any year, at its option, to the projected number of vials of each Supplied Product specified by AASTROM in the Annual Requirements Forecast. In the event of any supply constraint, IMMUNEX shall allocate the available quantities of Supplied Products among itself and its licensees in a fair and equitable manner. Each Supplied Product released to AASTROM for clinical studies or commercial sale shall be

manufactured in material compliance with current GMP and according to manufacturing information in the Manufacturing Regulatory Documentation. IMMUNEX shall perform sufficient quality control testing of all Supplied Products released to AASTROM to establish compliance with any release specifications required by the Manufacturing Regulatory Documentation.

3.8 Annual Requirements Forecast. AASTROM shall inform IMMUNEX of its forecasted requirements for each Supplied Product to be released to AASTROM during each Calendar Year ("Annual Requirements Forecast"). Within 30 days following the Effective Date, AASTROM shall provide IMMUNEX with a forecast of its Supplied Product requirements by Calendar Quarter for the remainder of 1996. On or before July 31 of each Calendar Year during the Term, AASTROM shall provide IMMUNEX with a forecast of its Supplied Product requirements for each Calendar Quarter of the following Calendar Year. Each such Annual Requirements Forecast shall not constitute a Purchase Order but rather a non-binding estimate to assist IMMUNEX in scheduling its facilities to manufacture Supplied Products. In the event that AASTROM shall, during the first three Calendar Quarters of any Calendar Year, fail to provide IMMUNEX with Purchase Orders for at least 25% of the quantity of each Supplied Product specified in the Annual Requirements Forecast applicable to such Calendar Year, IMMUNEX shall have the right to cease supply of such Supplied Product pursuant to Section 3.19 hereof following notice to AASTROM. Following the effective date of such notice, IMMUNEX shall provide AASTROM with thirty (30) days in which to submit a Purchase Order that will increase the quantity of Supplied Product subject to AASTROM's Purchase Orders in such Calendar Year to at least 25% of the Annual Requirements Forecast applicable to such Calendar Year.

3.9 Purchase Orders. On or before the first day of each Calendar Quarter during the Term, AASTROM shall provide IMMUNEX with a Purchase Order specifying the quantity of each Supplied Product to be released to AASTROM in the following Calendar Quarter and a schedule specifying the dates upon which such quantity, or any fraction thereof, is to be released to AASTROM. Following acceptance by IMMUNEX, a Purchase Order shall not be cancelable by AASTROM without the consent of IMMUNEX. AASTROM may submit additional Purchase Orders during each Calendar Quarter which IMMUNEX shall accept, provided that adequate quantities of Supplied Products are available for supply to AASTROM and that such Purchase Orders otherwise comply with all other terms of this Agreement. IMMUNEX shall have no obligation to undertake additional production or vialing campaigns to produce any Supplied Products for AASTROM that have not been specified in an Annual Requirements Forecast or a Purchase Order provided in accordance with this Section 3.9.

3.10 Supplied Product Specifications; Development of New Formulations. Immediately following the Effective Date, IMMUNEX shall provide Supplied Products to AASTROM in the available vialed formulations and vial sizes specified in the current Drug Master Files applicable to such Supplied Products. As new vialed formulations or vial sizes become available, IMMUNEX shall provide such new formulations or vial sizes to AASTROM and cause the Manufacturing Regulatory Documentation to be amended or supplemented to reflect all specifications applicable to such new formulations or vial sizes. IMMUNEX shall use reasonable commercial efforts to develop a 250 ug vialed formulation of each of PIXY321 and Flt3L. IMMUNEX shall have no obligation under this Agreement to develop any other vial sizes or formulations for AASTROM.

3.11 Specification Changes. Unless otherwise agreed by the parties, IMMUNEX shall have no obligation to manufacture any Cytokine for AASTROM according to processes or specifications that vary from those set forth in the applicable Manufacturing

Regulatory Documentation. Following the establishment of a standard formulation for each Cytokine, IMMUNEX shall use reasonable commercial efforts to maintain the integrity and consistency of all specifications applicable to Cytokines. In the event that IMMUNEX deems it necessary to revise any specifications, procedures or Manufacturing Regulatory Documentation applicable to a Cytokine, IMMUNEX shall provide reasonable advance notice of any such revision to AASTROM. All specification changes that result in procedures or limits that exceed or differ from those set forth in the Manufacturing Regulatory Documentation shall be submitted to the FDA before being implemented. IMMUNEX shall take reasonable actions in consultation with AASTROM to ensure that any such changes do not compromise any clinical study or Regulatory Filing of AASTROM.

3.12 Quality Control Testing and Release of Products. Following manufacture of each lot from which any Order is to be provided to AASTROM hereunder, IMMUNEX shall perform all quality control testing required to establish compliance of the lot with applicable specifications. A certificate of analysis shall be issued upon satisfactory completion of quality control testing of such lot. If quality control testing is successfully completed and a Purchase Order has been received, an Order shall be released to AASTROM on the date specified in the Purchase Order (the "Release Date"). Upon the Release Date, (a) IMMUNEX shall ship the Order to a location in the Territory as instructed by AASTROM, (b) upon receipt, title to such Order shall transfer to AASTROM, and (c) AASTROM shall be invoiced for the Order at the Supply Price at that time in effect.

3.13 Documentation. Not later than the time of delivery of each Order, IMMUNEX shall provide AASTROM with a certificate of analysis applicable to each lot of Supplied Products included in each Order released to AASTROM. IMMUNEX shall document each step of the manufacturing and processing procedure and shall maintain retention samples of each lot in accordance with applicable FDA requirements. Complete batch records for all Supplied Products manufactured for AASTROM shall be maintained at IMMUNEX for inspection at any time by AASTROM at IMMUNEX's place of business upon reasonable notice to IMMUNEX. Any proprietary information of IMMUNEX contained in such batch records shall be deemed to be Confidential Information of IMMUNEX.

3.14 Storage and Shipping. Following release, each Order shall be held for AASTROM by IMMUNEX in secure storage for use by or shipment to AASTROM or to such other recipient as instructed by AASTROM. All Orders shall be shipped FOB IMMUNEX's United States facility to a location in the Territory as designated by AASTROM with the insurance paid by IMMUNEX. AASTROM shall be responsible for all shipping charges, which shall be itemized on each invoice by IMMUNEX. Title to and risk of loss for each Order shall transfer to AASTROM upon delivery to AASTROM's designated delivery location. AASTROM shall provide IMMUNEX with a specific list of approved carriers that meet AASTROM's specifications for handling during shipment. AASTROM shall be solely responsible for any reshipments of Supplied Products or any shipments of Supplied Products outside the Territory.

3.15 Minimum Order Quantity. IMMUNEX will not act in the capacity of a distributor of Supplied Products to AASTROM's customers. At any time during the Term of this Agreement, IMMUNEX may establish reasonable minimum Order quantities (which will not exceed, absent AASTROM's consent, one Calendar Quarter's projected purchases as set forth in the applicable Annual Requirements Forecast) if AASTROM does not provide Purchase Orders specifying economically efficient Order quantities, or otherwise increase the prices charged to AASTROM for Supplied Products to include any additional costs incurred in filling Purchase Orders that do not meet reasonable minimum quantities.

3.16 Acceptance; Payment Terms. Payment for each Order released to AASTROM shall be due forty-five (45) days following delivery and invoice, during which period AASTROM shall perform its acceptance testing. IMMUNEX shall provide AASTROM with descriptions of its release testing procedures and specifications to permit AASTROM to conform its acceptance testing to the methods used by IMMUNEX. If AASTROM provides evidence that such Order fails to meet the release specifications set forth in the Manufacturing Regulatory Documentation that are at that time in effect, payment shall not be due until the failure is corrected. If the results of quality control testing by AASTROM do not agree with those obtained by IMMUNEX, AASTROM shall promptly so notify IMMUNEX and the acceptance period shall be extended forty-five (45) days to enable the parties to retest the Order or otherwise attempt to reconcile their differences. In the event that such differences cannot be resolved by the parties, the parties shall designate an independent testing laboratory to test the Order. The findings of such independent testing laboratory shall be binding on the parties, absent manifest error. The expenses shall be borne by the party adversely affected by such findings. IMMUNEX shall have no obligation to supply additional Orders of Supplied Products to AASTROM if AASTROM declines to accept any Order due to the application of any specifications or acceptance testing procedures that are different from the release testing procedures and specifications employed by IMMUNEX, if such Order otherwise complies with the procedures and specifications employed by IMMUNEX. A late payment charge of 1% of the outstanding unpaid balance per month shall be payable if invoiced charges are not paid when due.

3.17 Facility Visits. Upon reasonable prior notice to IMMUNEX, AASTROM or its designee may (but shall not be required to) have its representatives audit IMMUNEX's production of Supplied Products for material compliance with current GMP, including observing at any time the manufacture of any Supplied Product, or any quality control or other services provided by IMMUNEX. These representatives shall comply with all applicable safety and security rules while present at facilities owned or operated by IMMUNEX.

3.18 Scheduling of Campaigns; Delays. IMMUNEX shall employ reasonable commercial efforts to maintain inventories of all Supplied Products sufficient to meet AASTROM's commercial requirements as specified in each Annual Requirements Forecast. IMMUNEX shall promptly advise AASTROM of significant unanticipated delays in the release of any Order. IMMUNEX shall not be liable to AASTROM for any delay in providing any Order, or the documentation relating to any Order, if such delay is caused by Force Majeure.

3.19 Alternate Source of Supply. In the event that IMMUNEX elects to discontinue supplying AASTROM with any Supplied Product as provided in Section 3.8 above, or is prevented by Force Majeure from supplying AASTROM with any Supplied Product for a period of at least one hundred eighty (180) days, IMMUNEX shall use reasonable commercial efforts to grant AASTROM a nonexclusive license to make or have made the Cytokine corresponding to such Supplied Product for use or sale in the Field and Territory, transfer to AASTROM or its designee (which could include, for example, a mutually acceptable contract manufacturer) all Licensed Technology and any available license rights (apart from facilities, commercially available raw materials or equipment) that are necessary or useful in manufacturing such Cytokine in an alternative facility, and shall use reasonable commercial efforts to cooperate with AASTROM to continue to supply Supplied Product from its inventories to meet AASTROM's requirements for Supplied Product until an alternate source of supply is established. IMMUNEX shall not be obligated to grant such licenses or transfer any technologies in the event that a dispute over acceptance procedures or specifications cannot be resolved as provided in Section 3.16 hereof, or IMMUNEX and AASTROM are unable to resolve any dispute over pricing. In such event, AASTROM

shall be entitled to terminate this Agreement, subject to the liquidated damages provisions of Section 8.4 hereof.

3.20 Place of Payment. Payments by AASTROM to IMMUNEX will be made in United States Dollars by wire transfer to an account designated by IMMUNEX located in the United States.

4. GRANT OF LICENSE

4.1 License. IMMUNEX hereby grants AASTROM a nonexclusive license under the Licensed Patents and Licensed Technology, to use and sell the Supplied Products in the Field and Territory. The license granted hereunder includes the right to grant sublicenses to purchasers or distributors of the Systems, to preclinical or clinical investigators, or Affiliates of AASTROM, to use or sell the Supplied Products in the Field and Territory, but excludes the right to sell or to use the Supplied Products outside the Field and Territory. The scope of the Territory to which this license applies may be amended during the Term.

4.2 Expanded Territorial Rights. IMMUNEX and AASTROM each desire to extend the Territory to which the license granted pursuant to Section 4.1 hereof applies to include all countries in the world ("Expanded Territorial Rights"). IMMUNEX has commenced negotiations with American Cyanamid Company and American Home Products Corporation ("AHP") to obtain rights under prior agreements with such companies enabling IMMUNEX to grant the Expanded Territorial Rights to AASTROM. IMMUNEX shall continue such negotiations, and any other negotiations that it deems reasonably necessary to secure appropriate licenses and rights necessary to extend and protect such Expanded Territorial Rights. Pending resolution of such negotiations, IMMUNEX will not object to the commencement of any clinical trials by AASTROM outside of the Territory using Supplied Products sold to AASTROM in the Territory. If such negotiations are successful, IMMUNEX shall immediately amend this Agreement, at no additional charge or fee to AASTROM, to grant AASTROM Expanded Territorial Rights.

4.3 Licensed Trademarks. IMMUNEX hereby grants AASTROM a nonexclusive license to make, have made, use and sell products and services using the Licensed Trademarks in the Field and Territory, solely in connection with AASTROM's use, sale and distribution of Supplied Products for use in conjunction with the Systems. AASTROM's use of Licensed Trademarks shall at all times comply with all reasonable instructions and specifications provided by IMMUNEX.

4.4 Non-competition. During the term of this Agreement, neither IMMUNEX nor any Affiliate of IMMUNEX shall directly compete with AASTROM by selling Supplied Products to AASTROM's customers for use with the Systems. AASTROM shall not sell or distribute Supplied Products to customers of IMMUNEX or customers of other companies to which IMMUNEX provides Supplied Products for use with proprietary systems of such other companies. In the event that IMMUNEX enters into any subsequent supply or license agreements with other companies for Supplied Products, IMMUNEX shall obtain a covenant from such companies that they will not sell or distribute Supplied Products to AASTROM's customers for use with the Systems.

5. FEES AND ROYALTIES

5.1 Fees. In consideration of the value of research and development previously conducted by IMMUNEX in developing the----Supplied Products and Ancillary Materials and in assisting AASTROM with its development efforts prior to the Effective Date,

AASTROM shall pay IMMUNEX a Signing Fee of $1,500,000, due and payable thirty (30) days following the Effective Date. In order to maintain its license and supply rights, AASTROM shall pay IMMUNEX an annual Fee of $1,000,000, which shall be due and payable on each one year anniversary of the Effective Date during the Term. If any such Annual Fee is not paid when due, IMMUNEX shall have the right to terminate this Agreement for material breach, upon notice to AASTROM as provided in Section 8.2(a) hereof.

5.2 Royalties. AASTROM shall have no obligation to pay royalties to IMMUNEX in respect of the licenses granted to AASTROM under Section 4 hereof, or otherwise in respect of the use or sale of Supplied Products that are supplied by IMMUNEX. In the event that AASTROM or its designee manufactures any Cytokine that is subject to Licensed Patent Rights or is manufactured using Licensed Technology transferred by IMMUNEX to AASTROM or AASTROM's designee as provided in Section 3.19 hereof, AASTROM shall pay IMMUNEX royalties in respect of the net sales value of such Cytokine, as well as pay any royalties to Third Parties that IMMUNEX would have been obligated to pay in respect of the net sales value of such Cytokine. The royalties payable to IMMUNEX by AASTROM, as well as all other terms applicable to the reporting any payment of such royalties, shall be determined by good-faith negotiation between IMMUNEX and AASTROM, taking into account the value of the Licensed Technology, customary commercial practices in the U.S. biotechnology, pharmaceutical and medical device industries, and other relevant factors.

5.3 Records. AASTROM shall keep and maintain, in accordance with generally accepted accounting principles, proper and complete records and books of account documenting all sales or other dispositions of Supplied Products as well as sales or other dispositions of the Systems that include Supplied Products. At IMMUNEX's request and expense, AASTROM shall permit an independent public accounting firm selected by IMMUNEX to have access, not more than once in any consecutive four Calendar Quarters, to such books and records for the sole purpose of verifying sales reported by AASTROM to IMMUNEX for purposes of Exhibit B, or for calculating any royalties due IMMUNEX.

6. INTELLECTUAL PROPERTY

6.1 Inventions. AASTROM shall inform IMMUNEX of any material Improvement that is made by its employees, provided such Improvement has been formalized as a disclosure. Title to any invention made by an employee or employees of either party in connection with its activities under this Agreement shall vest in the employer of such employee or employees in accordance with the patent laws of the United States. Inventions made jointly by one or more employees of each party shall be jointly owned. Each party shall inform the other in the event that its employees report the making of a joint invention. Each party shall cooperate with the other in completing any patent applications to secure patent rights for inventions in which the other has an ownership interest, and in perfecting such other party's legal title thereto. If AASTROM does not itself elect to obtain patent coverage in any territory for any disclosed Improvement that is made solely by its employees, it shall provide IMMUNEX with the opportunity to prepare and file appropriate patent applications covering the disclosed Improvement. Any patent rights resulting from such patent applications will be included within the scope of Licensed Patent Rights.

6.2 Notification and Abatement of Patent Infringement. AASTROM shall notify IMMUNEX of any infringement known to AASTROM by any Person of any Licensed Patent Rights that apply also to operations of AASTROM, and shall provide IMMUNEX with the available evidence, if any, of such infringement. If such infringement is demonstrated by AASTROM to have resulted in competitive harm, or would reasonably be

expected to result in harm to AASTROM, AASTROM shall have the right to request that IMMUNEX commence suit or otherwise abate such infringement. If, following such notice, IMMUNEX has not commenced such suit within one hundred eighty (180) days following such notice, AASTROM shall have the right to suspend payment of any annual fees or royalties payable hereunder (but not any payments for Supplied Products) until IMMUNEX commences such suit or otherwise abates the infringement by licensing or otherwise. IMMUNEX shall not be obligated to undertake any patent enforcement activities if AASTROM has not paid IMMUNEX total annual fees equal to at least $3,500,000.

IMMUNEX shall not be obligated to enforce Licensed Patent Rights against more than one infringer at any one time.

6.3 General Obligation of Confidentiality. During the Term and for a period of five (5) years thereafter, AASTROM and IMMUNEX shall maintain in confidence the respective Confidential Information received or obtained from the other party, and use such Confidential Information solely for the purposes contemplated and permitted by this Agreement. Each party shall maintain communications to each other in confidence. Each party acknowledges that all Confidential Information exchanged or developed hereunder shall be owned by the transferor and shall continue to be owned by the transferor following transfer.

6.4 Permitted Disclosures. Notwithstanding Section 6.3 hereof, IMMUNEX and AASTROM shall, to the extent necessary, have the right to disclose and use Confidential Information of the other party:

(a) to prepare or supplement any Regulatory Filing applicable to the use of a Supplied Product in the Field, or otherwise to assist in securing institutional or government approval to clinically test or government approval to market a Supplied Product for use in the Field; or

(b) where the disclosure and use of the Confidential Information will be useful or necessary to the procurement of Licensed Patent Rights;

provided that the affected party shall have been notified of such disclosure and that any such disclosure shall be in confidence and subject to provisions the same, or substantially the same, as those in Section 6.3 hereof, whenever reasonably possible.

6.5 Publicity, Use of Names or Trademarks. Neither party shall originate any press release concerning this Agreement or the subject matter hereof without the prior written approval of the other party, which approval shall not be unreasonably withheld. Except as provided in Section 4.3 hereof with respect to Licensed Trademarks, neither party shall have the right to use the name or any trade name or trademark of the other in any form of publicity, advertising, or solicitation without the prior written approval of the other party. The trademarks Immunex(R), Leukine(R), Pixykine(R) and Cell Software(TM) are the exclusive property of IMMUNEX.

7. WARRANTIES AND REPRESENTATIONS

7.1 Warranties and Representations of IMMUNEX. IMMUNEX represents and warrants to AASTROM that:

(a) IMMUNEX is a corporation duly organized, validly existing and in good standing under the laws of the State of Washington and has all necessary corporate power to enter into and perform its obligations under this Agreement;

(b) the execution, delivery and performance of this Agreement by IMMUNEX have been duly authorized and approved by all necessary corporate action, and that the Agreement is binding upon and enforceable against IMMUNEX in accordance with its terms (subject to bankruptcy and similar laws affecting the rights of creditors generally);

(c) IMMUNEX is the owner of the Licensed Patent Rights, Licensed Technology and Licensed Trademarks, and has the right to grant AASTROM the licenses granted hereunder, subject to any dominating patent rights of third parties (for example, IL-3 or GM-CSF patents owned or controlled by Genetics Institute, Inc. or Sandoz AG) and the rights of AHP under applicable agreements with IMMUNEX;

(d) IMMUNEX is not aware of any special or unusual hazards that would arise as a result of AASTROM's use of Licensed Technology as permitted hereunder;

(e) Each lot of each Supplied Product delivered to AASTROM hereunder shall be manufactured, tested and released in material compliance with current GMP and the applicable Manufacturing Regulatory Documentation; and

(f) Any documentation provided to AASTROM by IMMUNEX concerning any Supplied Product or Drug Master File shall be accurate in all material respects.

7.2 Warranties and Representations of AASTROM. AASTROM represents and warrants to IMMUNEX that:

(a) AASTROM is a corporation duly organized, validly existing and in good standing under the laws of the State of Michigan and has all necessary corporate power to enter into and perform its obligations under this Agreement;

(b) the execution, delivery and performance of this Agreement by AASTROM have been duly authorized and approved by all necessary corporate action, and that the Agreement is binding upon and enforceable against AASTROM in accordance with its terms (subject to bankruptcy and similar laws affecting the rights of creditors generally); and

(c) AASTROM shall use the Licensed Technology in compliance with all applicable federal, state and local laws and regulations.

7.3 Limitation of Liability. IMMUNEX has no knowledge or awareness of or control over the manner in which AASTROM intends to use the Licensed Technology. IMMUNEX shall not be liable to AASTROM for any losses, damages, costs or expenses of any nature incurred or suffered by AASTROM or by a Third Party, arising out of any dispute or other claims or proceedings made by or brought against AASTROM, (including, without limitation, product liability claims and claims by a Third Party alleging infringement of its intellectual property rights by the use or sale of any Supplied Product or System), nor shall IMMUNEX be responsible in any way for dealing with any such disputes, claims or proceedings, except to the extent that any such dispute, claim or proceeding arises from (a) a breach by IMMUNEX of any warranty set forth in Section 7.1 hereof, or (b) any failure by IMMUNEX to manufacture, test, document or release any Supplied Product in material compliance with current GMP and the applicable Manufacturing Regulatory Documentation. IMMUNEX shall not be responsible to AASTROM for any interruption in supply that is caused by Force Majeure. EXCEPT AS SET FORTH IN SECTION 7.1(e) HEREOF, IMMUNEX MAKES NO PRODUCT WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IMMUNEX

SHALL NOT BE LIABLE FOR ANY USE OF LICENSED TECHNOLOGY BY AASTROM OR FOR ANY LOSS, CLAIM, DAMAGE, OR LIABILITY, OF ANY KIND OR NATURE, WHICH MAY ARISE FROM OR IN CONNECTION WITH THIS AGREEMENT OR FROM THE USE, HANDLING OR STORAGE OF THE SUPPLIED PRODUCTS OR ANCILLARY MATERIALS. NEITHER PARTY TO THIS AGREEMENT SHALL BE ENTITLED TO RECOVER FROM THE OTHER ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES.

7.4 AASTROM's Right to Indemnification. IMMUNEX shall indemnify each of AASTROM, its successors and assigns, and the directors, officers, employees, agents and counsel thereof (the "AASTROM Indemnitees"), pay on demand and protect, defend, save and hold each AASTROM Indemnitee harmless from and against, on an after-tax basis, any and all liabilities, damages, losses, settlements, claims, actions, suits, penalties, fines, costs or expenses (including, without limitation, reasonable attorneys' fees) (any of the foregoing, a "Claim") incurred by or asserted against any AASTROM Indemnitee of whatever kind or nature, including, without limitation, any claim or liability based upon negligence, warranty, strict liability, violation of government regulation or infringement of patent or other proprietary rights, arising from or occurring as a result of (a) the use of any Licensed Technology by IMMUNEX or any Affiliate, agent or Third Party licensee of IMMUNEX (other than AASTROM) or (b) any breach of this Agreement by IMMUNEX, (including (i) any breach by IMMUNEX of any warranty set forth in Section 7.1 hereof, or (ii) any failure by IMMUNEX to manufacture, test, document or release any Supplied Product in material compliance with current GMP and the applicable Manufacturing Regulatory Documentation) except in any case claims resulting from the gross negligence or willful misconduct of AASTROM. AASTROM shall promptly notify IMMUNEX of any Claim, upon becoming aware thereof, and permit IMMUNEX at IMMUNEX's cost to defend against such Claim and shall cooperate in the defense thereof. Neither IMMUNEX nor AASTROM shall enter into, or permit, any settlement of any such Claim without the express written consent of the other party. AASTROM may, at its option and expense, have its own counsel participate in any proceeding that is under the direction of IMMUNEX and will cooperate with IMMUNEX or its insurer in the disposition of any such matter.

7.5 IMMUNEX Right to Indemnification. AASTROM shall indemnify each of IMMUNEX, its successors and assigns, and the directors, officers, employees, agents and counsel thereof (the "IMMUNEX Indemnitees"), pay on demand and protect, defend, save and hold each IMMUNEX Indemnitee harmless from and against, on an after-tax basis, any and all Claims incurred by or asserted against any IMMUNEX Indemnitee of whatever kind or nature, including, without limitation, any claim or liability based upon negligence, warranty, strict liability or violation of government regulation, arising from or occurring as a result of (a) the use of any Supplied Product, Licensed Technology or Licensed Patent Rights by AASTROM or any Affiliate, agent or employee of AASTROM, (b) any breach of this Agreement by AASTROM, or (c) infringement of patent or other proprietary rights of a Third Party, except in any case claims resulting from the gross negligence or willful misconduct of IMMUNEX. IMMUNEX shall promptly notify AASTROM of any Claim, upon becoming aware thereof, and permit AASTROM at AASTROM's cost to defend against such Claim and shall cooperate in the defense thereof. Neither IMMUNEX nor AASTROM shall enter into, or permit, any settlement of any such Claim without the express written consent of the other party. IMMUNEX may, at its option and expense, have its own counsel participate in any proceeding that is under the direction of AASTROM and will cooperate with AASTROM or its insurer in the disposition of any such matter.

8. TERM AND TERMINATION

8.1 Normal Termination. Unless terminated early or renewed as provided hereunder, this Agreement shall commence on the Effective Date and shall terminate upon the fifth (5th) anniversary of the Effective Date (the "Term").

8.2 Termination by IMMUNEX. IMMUNEX shall have the right to terminate this Agreement, including the licenses granted pursuant to Sections 4.1 and 4.2 hereof, effective immediately upon written notice of termination to AASTROM in the event that:

(a) AASTROM fails to perform or observe or otherwise breaches any of its material obligations under this Agreement and such failure or breach continues unremedied for a period of sixty (60) days after receipt by AASTROM of written notice thereof from IMMUNEX;

(b) a proceeding or case shall be commenced without the application or consent of AASTROM and such proceeding or case shall continue undismissed, or an order, judgment or decree approving or ordering any of the following shall be entered and continue unstayed and in effect, for a period of forty-five (45) days from and after the date service of process is effected upon AASTROM, seeking (i) AASTROM's liquidation, reorganization, dissolution or winding-up, or the composition or readjustment of its debts, (ii) the appointment of a trustee, receiver, custodian, liquidation or the like of AASTROM or of all or any substantial part of its assets, or (iii) similar relief in respect of AASTROM under any law relating to bankruptcy, insolvency, reorganization, winding-up or the composition or readjustment of debts.

8.3 Termination by AASTROM for Cause other than Material Breach by IMMUNEX. Subject to Section 8.4 hereof, AASTROM shall have the right to terminate this Agreement at any time, effective immediately upon written notice of termination to IMMUNEX.

8.4 Liquidated Damages upon Early Termination. Following the Effective Date, Immunex will commit personnel, incur expenses and devote its resources to develop specialized formulations or vial sizes for the Supplied Products. In the event that AASTROM terminates this Agreement pursuant to Section 8.3 hereof prior to the payment to IMMUNEX of Annual Fees under Section 5.1 hereof equal to * AASTROM shall pay IMMUNEX liquidated damages that are equal to *

Such liquidated damages shall be paid by AASTROM to IMMUNEX within thirty (30) days following receipt of an invoice detailing the calculation thereof.

8.5 Termination by AASTROM for Material Breach. AASTROM shall have the right to terminate this Agreement, including the licenses granted pursuant to Sections 4.1 and 4.2 hereof, effective immediately upon written notice of termination to IMMUNEX in the event that:

(a) IMMUNEX fails to perform or observe or otherwise breaches any of its material obligations under this Agreement and such failure or breach continues unremedied

*CONFIDENTIAL PORTION REDACTED AND FILED SEPARATELY WITH THE COMMISSION

for a period of sixty (60) days after receipt by IMMUNEX of written notice thereof from AASTROM;

(b) a proceeding or case shall be commenced without the application or consent of IMMUNEX and such proceeding or case shall continue undismissed, or an order, judgment or decree approving or ordering any of the following shall be entered and continue unstayed and in effect, for a period of forty-five (45) days from and after the date service of process is effected upon IMMUNEX, seeking (i) IMMUNEX's liquidation, reorganization, dissolution or winding-up, or the composition or readjustment of its debts, (ii) the appointment of a trustee, receiver, custodian, liquidation or the like of IMMUNEX or of all or any substantial part of its assets, or (iii) similar relief in respect of IMMUNEX under any law relating to bankruptcy, insolvency, reorganization, winding-up or the composition or readjustment of debts.

8.6 Effect of Termination. In the event of any termination of this Agreement, all amounts previously invoiced and unpaid, or any accrued royalties due IMMUNEX, shall be due and payable as of the time of termination, except for any liquidated damages due pursuant to Section 8.4 which shall be paid as provided therein. Upon termination, all rights and licenses granted pursuant to Section 4.1 and 4.2 hereof shall immediately terminate, but the provisions of Sections 6.3 and 6.4 hereof relating to Confidential Information and AASTROM shall cease use of all IMMUNEX trademarks. The liability and indemnification provisions of Sections 7.3, 7.4 and 7.5 hereof shall survive termination or expiration of this Agreement only with respect to Claims that arose from acts or circumstances that occurred prior to termination.

8.7 Renewal. Subject to the provisions set forth below and in Sections 3.19 and 5.2, Immunex hereby grants AASTROM an option to renew this Agreement, or any amendment or renewal thereof, for an additional five (5) year term to commence upon expiration of the Term, provided that AASTROM notifies IMMUNEX of its intent to renew at least one year prior to the fifth (5th) anniversary of the Effective Date. AASTROM and IMMUNEX will negotiate the Supply Price applicable to the Supplied Product for the Renewal Term in good faith, said Supply Price to reflect any reasonable changes in manufacturing costs incurred by IMMUNEX that would cause a decreased profit margin to IMMUNEX in comparison with that attained during the initial term of the Agreement, AASTROM's profit margin on sales of the Systems, or any increases or decreases in the price charged by AASTROM or its licensees to customers for the Systems. If IMMUNEX elects to not renew the Agreement, then IMMUNEX will continue to supply AASTROM with Licensed Technology for two additional years from the date of written notification to AASTROM of IMMUNEX's intent not to renew, during which period IMMUNEX shall grant the licenses and transfer to AASTROM or its designee the Licensed Technology (apart from facilities, equipment or commercially available supplies) that is necessary or useful to manufacture Supplied Product in an alternative facility as provided in Section 3.19.

9. MISCELLANEOUS PROVISIONS

9.1 No Implied Waivers; Rights Cumulative. No failure on the part of IMMUNEX or AASTROM to exercise and no delay in exercising any right, power, remedy or privilege under this Agreement, or provided by statute or at law or in equity or otherwise, including, without limitation, the right or power to terminate this Agreement, shall impair, prejudice or constitute a waiver of any such right, power, remedy or privilege or be construed as a waiver of any breach of this Agreement or as an acquiescence therein, nor shall any single or partial exercise of any such right, power, remedy or privilege preclude any other or further exercise thereof or the exercise of any other right, power, remedy or privilege.

9.2 Survival. All agreements, covenants, representations, warranties and indemnities set forth in this Agreement shall survive the execution and delivery of this Agreement.

9.3 Notices. All notices, requests and other communications to IMMUNEX or AASTROM hereunder shall be in writing (including telecopy or similar electronic transmissions), shall refer specifically to this Agreement and shall be personally delivered or sent by telecopy (fax) or other electronic facsimile transmission or by registered mail, or certified mail, return receipt requested, postage prepaid, in each case to the respective address specified below (or to such address as may be specified in writing to the other party hereto):

Immunex Corporation
51 University Street
Seattle, Washington 98101
Attention: General Counsel
FAX: (206) 233-0644

Aastrom Biosciences, Inc.
Lobby L, Domino's Farms
Ann Arbor, Michigan 48106
Attention: President
FAX: (313) 665-0485

9.4 Further Assurances. Each of IMMUNEX and AASTROM agrees to duly execute and deliver, or cause to be duly executed and delivered, such further instruments and do and cause to be done such further acts and things, including, without limitation, the filing of such additional assignments, agreements, documents and instruments, that may be necessary or as the other party hereto may at any time and from time to time reasonably request in connection with this Agreement or to carry out more effectively the provisions and purposes of, or to better assure and confirm unto such other party its rights and remedies under, this Agreement.

9.5 Successors and Assigns. The terms and provisions of this Agreement shall inure to the benefit of, and be binding upon, IMMUNEX, AASTROM, and their respective successors and permitted assigns as provided in this Section. IMMUNEX shall have the right to assign or otherwise transfer any of its rights and interests, or delegate any of its obligations, to an Affiliate of IMMUNEX provided that such Affiliate agrees in writing to carry out in full any obligations to AASTROM that are assigned to it. Either party shall have the right to assign all of its rights and interests and delegate all of its obligations under this Agreement to any Person that is the successor in interest to the assigning party in any merger, consolidation or sale involving substantially all of the business and assets of the assigning party. Any other assignment or delegation shall only be valid and effective if the other party has provided its prior express written consent. Any attempt to assign or delegate any portion of this Agreement in violation of this Section shall be null and void. Subject to the foregoing, any reference to IMMUNEX or AASTROM hereunder shall be deemed to include the successors thereto and assigns thereof.

9.6 Amendments. No amendment, modification, waiver, termination or discharge of any provision of this Agreement, nor consent to any departure by IMMUNEX or AASTROM therefrom, shall in any event be effective unless the same shall be in writing specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by IMMUNEX and AASTROM,

and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by IMMUNEX and AASTROM.

9.7 Governing Law. This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the state of Washington applicable to contracts entered into in that state between citizens of that state and to be performed wholly within that state without reference to any rules governing conflicts of laws.

9.8 Severability. If any provision hereof should be held invalid, illegal or unenforceable in any respect in any jurisdiction, then, to the fullest extent permitted by law, (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intentions of the parties hereto as nearly as may be possible and (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of such provision in any other jurisdiction. To the extent permitted by applicable law, IMMUNEX and AASTROM hereby waive any provision of law that would render any provision hereof prohibited or unenforceable in any respect.

9.9 Headings. Headings used herein are for convenience only and shall not in any way affect the construction of, or be taken into consideration in interpreting, this Agreement.

9.10 Execution in Counterparts. This Agreement may be executed in any number of counterparts, each of which counterparts, when so executed and delivered, shall be deemed to be an original, and all of which counterparts, taken together, shall constitute one and the same instrument.

9.11 Entire Agreement. This Agreement constitutes, on and as of the date hereof, the entire agreement of IMMUNEX and AASTROM with respect to the subject matter hereof, and all prior or contemporaneous understandings or agreements, whether written or oral, between IMMUNEX and AASTROM with respect to such subject matter are hereby superseded in their entireties.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized officers as of the date first written above.

IMMUNEX CORPORATION	AASTROM BIOSCIENCES, INC.
By /s/ Scott G. Hallquist	By /s/ R. Douglas Armstrong
Title Senior Vice President	Title President/CEO

EXHIBIT A: LICENSED PATENT RIGHTS

NOTE: LICENSE TO INTERNATIONAL RIGHTS IS SUBJECT TO PRIOR CONSENT OF AMERICAN HOME PRODUCTS CORPORATION

Technology	Country	(Application SN) Patent Number	Filing Date (Priority Date)	
PIXYKINE(R) rh GM-CSF/IL-3 fusion protein	United States	5,073,627	8/14/90	(8/22/89)
		5,108,910	3/22/91	(8/22/89)
	Australia	632372	8/14/90	(8/22/89)
	Canada	(2,054,608)	10/31/91	(8/22/89)
	Germany	DD297,188	8/22/90	(8/22/89)
	Europe	0489116	8/14/90	(8/22/89)
	Austria	0489116	8/14/90	(8/22/89)
	Belgium	0489116	8/14/90	(8/22/89)
	Denmark	0489116	8/14/90	(8/22/89)
	France	0489116	8/14/90	(8/22/89)
	Italy	0489116	8/14/90	(8/22/89)
	Germany	0489116	8/14/90	(8/22/89)
	Luxembourg	0489116	8/14/90	(8/22/89)
	Liechtenstein	0489116	8/14/90	(8/22/89)
	Netherlands	0489116	8/14/90	(8/22/89)
	Spain	0489116	8/14/90	(8/22/89)
	Sweden	0489116	8/14/90	(8/22/89)
	Switzerland	0489116	8/14/90	(8/22/89)
	United Kingdom	0489116	8/14/90	(8/22/89)
	Finland	(920764)	8/14/90	(8/22/89)
	Ireland	64202	8/21/90	(8/22/89)
	Japan	(513381/90)	8/14/90	(8/22/89)
	Mexico	(92 03426)	6/25/92	(8/22/89)
	Malaysia	(PI9102157)	11/22/91	(8/22/89)
	Norway	(920703)	8/14/90	(8/22/89)
	Philippines	(44030)	3/11/92	(8/22/89)
	PCT	(PCT/US90/04599)	8/14/90	(8/22/89)

rh Flt3L	United States	(08/243,545)	5/11/94	(5/24/93)
		(08/444,626)	5/19/95	(5/24/93)
		(08/444,632)	5/19/95	(5/24/93)
		(08/444,625)	5/19/95	(5/24/93)
		(08/444,627)	5/19/95	(5/24/93)
	Australia	69877/94	5/12/94	
	Canada		5/12/94	
	Europe	(94303575.8)	5/19/95	(5/24/93)
	Finland	955646	5/12/94	
	Israel	(109677)	5/18/94	(5/24/93)
	Japan	500715/95	5/12/94	
	Korea	705236/1995	5/12/94	
	Mexico	(943806)	5/23/94	(5/24/93)
	Malaysia	(PI 9401321)	5/24/94	(5/24/93)
	Norway	954735	5/12/94	
	New Zealand	267541	5/12/94	
	South Africa	94/3490	5/20/94	(5/24/93)
	Thailand	(022529)	5/23/94	(5/24/93)
	Taiwan	(83105225)	6/8/94	(6/8/94)
	Taiwan	(83110743)	11/18/94	(11/18/94)
	PCT	(PCT/US94/05365)	5/12/94	(5/24/93)
Method for Improving Autologous Transplantation	United States	5,199,942	9/26/91	(6/7/91)
	Australia	(21793/92)	6/5/92	(6/7/91)
	Canada	(2,109,699)	6/5/92	(6/7/91)
	Europe	(92913333.8)	6/5/92	(6/7/91)
	Japan	(500649/93)	6/5/92	(6/7/91)
	PCT	(PCT/US92/04686)	6/5/92	(6/7/91)
Extracorporeal Cell Culture and Transplantation Kits	United States	(08/399,404)	3/6/95	(3/6/95)
	PCT	(PCT/US95/02886)	3/7/95	(3/6/95)
LEUKINE(R) rh GM-CSF	United States	5,391,485	8/6/85	
		5,229,496	10/6/88	
		5,393,870	5/27/93	
	Canada	(514,337)	7/22/86	

EXHIBIT B: PRICE OF SUPPLIED PRODUCT

During the first year of the Term, IMMUNEX will sell Supplied Product to AASTROM at the following Supply Prices:

Product	Price
GMP Pixykine(R) PIXY321	* per vial
GMP Flt3L	* per vial
GMP Leukine(R) GM-CSF (250 microgram vial)	Current published list price less*

Initial Orders for Pixykine(R) and Flt3L will be supplied at 1.5 mg vials from available inventories of lyophilized product. As new formulations or vial sizes become available, they will be supplied in subsequent Orders at the prices listed above. AASTROM and IMMUNEX currently anticipate that formulation development work should have the goal of developing 250 microgram liquid formulations for PIXY321 and Flt3L.

*

On each anniversary of the Effective Date, IMMUNEX shall have the right to raise the prices charged AASTROM for Pixykine(R) and Flt3L by a percentage equal to the percentage increase in the Index (defined below) for the 12 month period ending with December of the Calendar Year immediately preceding such anniversary date (such increase, the "CPI Increase"). For purposes of this Agreement, the term "Index" shall mean the Consumer Price Index for all Urban Consumers (CPI-U) - - U.S. City Average. All Items (1982-1984 = 100), as published by the United States Bureau of Labor Statistics, or if such index is no longer published, then the index most comparable thereto, as reasonably determined by IMMUNEX.

Ancillary Materials will be supplied at no charge by IMMUNEX to AASTROM in reasonable quantities sufficient to permit AASTROM to assay any Order provided to AASTROM, or to complete preclinical research or validation of new applications.

License and Supply Agreement.
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*CONFIDENTIAL PORTION REDACTED AND FILED SEPARATELY WITH THE COMMISSION

EXHIBIT 10.32

GOVERNANCE AGREEMENT

Between

AASTROM BIOSCIENCES, INC.

and

RHONE-POULENC RORER INC.

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GOVERNANCE AGREEMENT

This Governance Agreement is entered into as of September 15, 1995 (the "Effective Date") by and between Aastrom Biosciences, Inc., a Michigan corporation ("ABI"), and Rhone Poulenc Rorer Inc., a Delaware corporation ("RPR"), with respect to the following facts:

A. RPR and ABI entered into the Letter of Intent, which included a term sheet concerning the development and sale of the CPS for Lymphoid Cell Applications. Pursuant to the Letter of Intent, RPR paid ABI $250,000 for ABI to "standstill" with respect to negotiating transactions with third parties which would be inconsistent with ABI entering into the transactions with RPR as contemplated by the Letter of Intent, with an exception for discussions directed to the sale of substantially all of ABI's assets to, or a merger of ABI with, a third party.

B. The purpose of this Agreement is to implement, replace and supersede the Letter of Intent, effective as of the date of this Agreement.

C. The parties have negotiated, drafted and executed certain additional agreements as contemplated by the Letter of Intent and this Agreement, consisting of:

1. Supply Agreement;

2. License Agreement

3. Stock Purchase Agreement; and

4. Arbitration Agreement (pending).

D. This Agreement, the License Agreement and the Stock Purchase Agreement are effective as of the date hereof. Pursuant to the terms of this Agreement, prior to the end of the First Option Period, the parties will negotiate and execute the Arbitration Agreement, effective as of its execution date, and the Research and Development Collaboration Agreement. The Research and Development Collaboration Agreement together with the Supply Agreement, shall become effective only after RPR delivers the Third Option Event Notice.

E. Pursuant to the Letter of Intent, RPR has paid to ABI $225,000 as an research and development deposit to enable ABI to initiate preliminary research and development for manufacturing the ten Manual CPS units which have been, or, prior to initiation of the First Option Period are to be, installed at AIS.

F. RPR has conducted due diligence investigation concerning ABI, the CPS, and potential issues concerning the future development of the CPS for Lymphoid Cell Applications.

G. The parties have negotiated and agreed upon a budget for ABI to conduct research and development for the CPS during the First Option Period, which budget is hereinafter referred to as the "First Option Period R&D Budget" and is attached hereto as Exhibit A.

WHEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, mutually agree as follows:

1. Definitions. As used in this Agreement, the following terms have the meanings set forth below.

"ABI" means AASTROM Biosciences, Inc., a Michigan corporation.

"Activation Date" shall mean the date RPR delivers the Third Option Event Notice.

"Affiliate" means any company or other legal entity in which a party holds, directly or indirectly, at least forty percent (40%) or more of (i) the capital, (ii) the income interest in the company or other legal entity, (iii) the voting rights, or (iv) the right to elect or appoint directors.

"AIS" means Applied Immune Sciences, a Delaware corporation, which is an Affiliate of RPR.

"Arbitration Agreement" means the Agreement executed by ABI and RPR prior to the end of the First Option Period and governing the resolution of disputes involving the Implementing Agreements.

"Automated CPS" means the cell production system developed by ABI as a system for growing cells ex vivo for therapeutic purposes which, in its basic format consists of Disposables and Durables, together with modifications and improvements thereof.

"Automated CPS Package" means the deliverable items referenced in Section 2.1 hereof, consisting of three CPS incubators (beta level), one CPS processor (beta level), three machined, reusable-shell cell cassettes, one CPS monitor and 50 bioreactors and associated tubing sets.

"Cobe Distribution Agreement" has the meaning provided in the License Agreement.

"Confidentiality Agreement" means the Mutual Confidentiality Agreement dated January 13, 1995 between RPR, ABI, AIS and Rhone-Poulenc Rorer Pharmaceuticals Inc.

"Confidential Information" means all confidential information, trade secrets and other proprietary information which belongs to a party and which the party keeps confidential for the business advantage of the party. Without limiting the generality of the foregoing, a party's confidential information includes the following information and items which the party endeavors to keep confidential: technology, know-how, inventions, pending patent applications, data, formula, studies, devices, materials, investigations, reports, lists of actual or potential customers, clients and vendors, financial reports and projections, marketing reports and projections, software programs, manufacturing pre-production drawings, prototypes, business plans, business records, scientific evaluations, and so forth. Notwithstanding the foregoing, "Confidential Information" does not include information which:

(a) is publicly disclosed, except by breach of an agreement of confidentiality;

(b) the receiving party can establish by written proof was in its possession at the time of disclosure by the owning party and was not acquired directly or indirectly from the owning party or from any third party under an agreement of confidentiality to the owning party;

(c) the receiving party receives from a third party legally in a position to provide the receiving party with such information, provided that such information was not obtained by said third party directly or indirectly under an obligation of secrecy; or

(d) has been independently developed by the receiving party without the aid, application or use of the owning party's Confidential Information.

"CPS" means any system or device for substantially increasing, the number of cells, ex vivo, for human therapeutic uses, that may be configured in different component structures (such as described for the Automated CPS or the Manual CPS). For purposes of clarity, CPS does not include a system or device (i) which provides for cell manipulation, such as for gene transfer into cells through steps, that does not grow a substantially increased number of cells, such as the Aastrom Gene Loader, or (ii) which stores cells, but which does not grow a substantially increased number of cells.

"Disposables" means the cell growth cassette configured to be received and operated by the Automated CPS incubator and/or Automated CPS processor, and

consisting of a medium supply container unit and a separate unit consisting of a cell growth chamber, a waste medium container, and a harvest container (or means for attachment of a harvest container); all such units appropriately connected as a fluid pathway and manufactured as a sterile product for the expansion of cells; each as more completely described in ABI's product specifications for the Automated CPS.

"Durables" means the major components of the Automated CPS (other than the Disposables), including (1) the Automated CPS incubator, an instrument configured to receive and operate the Disposables; (2) the Automated CPS processor, an instrument configured to receive and operate the Disposables for medium priming, cell distribution and/or cell harvesting; and (3) the Automated CPS monitor, an instrument configured to display information to the user regarding the operational status of one or more of the Automated CPS incubators; each as more completely described in ABI's product specifications for the Automated CPS.

"First Option Payment" means the sum of $1,500,000 payable by RPR to ABI as specified in Section 2.2 hereof.

"First Option Period" has the meaning specified in Section 2.1 hereof.

"First Option Period Initiation Date" has the meaning specified in Section 2.1 hereof.

"First Option Period R&D Budget" means the budgeted funding to be provided by RPR to ABI, as specified in Section 2 hereof and Exhibit A attached hereto.

"Implementing Agreements" means this Agreement, the License Agreement, the Supply Agreement, the Research and Development Collaboration Agreement, the Stock Purchase Agreement and the Arbitration Agreement.

"IPO" means the first underwritten offering by ABI to the public of ABI's common stock registered under the Securities Act of 1933, as amended.

"Letter of Intent" means the letter from RPR to ABI dated June 9, 1995, and the related Term Sheet, concerning using the CPS for Lymphoid Cell Applications.

"License Agreement" means the agreement with that title between RPR and ABI, dated as of the date hereof.

"Lymphoid Cell" means lymphoid stem cell (e.g., a cell capable of generating cells solely of lymphoid lineage) and any cell derived therefrom, including but not limited to the subcortical thymocyte, cortical thymocyte, medullary thymocyte, lymphocyte, B-cell, plasma cell, immunoblast, lymphoplasmacytoid cell and the NK-cell.

"Lymphoid Cell Applications" means any production, expansion, selection or genetic manipulation, including genetic transformation, of Lymphoid Cells, provided that either the starting cell population is a lymphoid selected cell mixture or that the mature lymphoid cell production is not derived ex vivo from a pre-lymphoid cell-type (e.g., multipotent stem cell).

"Manual CPS" means the 750 cm2 radial flow bioreactor, the tubing kit for medium conduit, a medium supply container, a waste container, and a cell harvest bag, as more completely described in ABI's product specifications for the Manual CPS.

"Research and Development Collaboration Agreement" has the meaning provided in Section 7 hereof.

"RPR" means Rhone-Poulenc Rorer Inc., a Delaware corporation.

"Second Option Payment" means the sum of $2,000,000 payable by RPR to ABI as specified in Section 3.2 hereof.

"Second Option Period" has the meaning provided in Section 3.1 hereof.

"Second Option Period Initiation Date" has the meaning specified in Section 3.1 hereof.

"Second Option Period R&D Budget" has the meaning provided in Section 2.6 hereof.

"Stock Purchase Agreement" means the agreement with that title between RPR and ABI, dated as of the date hereof.

"Supply Agreement" means the agreement with that title between RPR and ABI, dated as of the date hereof, which will become effective if RPR exercises the Third Option Event Notice.

"Third Option Events" has the meaning provided in Section 3.6 hereof.

"Third Option Event Notice" means the notice to be delivered by RPR to ABI in accordance with Section 3.6 hereof, pursuant to which RPR notifies ABI of its election to proceed with the Third Option Events.

2. First Option Period.

2.1 Time Duration. The First Option Period shall commence on the date (the
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"First Option Period Initiation Date") that is the later of (i) the date of this Agreement, and (ii) the delivery at AIS of 10 manually operated CPS devices (including all necessary Disposables) and shall extend until the latter of (i) the date that is six months

thereafter, and (ii) the date that is three business days after ABI installs at AIS the Automated CPS Package, unless RPR otherwise elects to initiate the Second Option Period prior to the above dates.

2.2 First Option Payment. Within ten (10) days after the First Option Period Initiation Date, RPR shall pay to ABI, by wire transfer, the sum of $1,500,000 (the "First Option Payment") ; provided, however, that RPR shall not be obligated to make such payment until the Cobe Distribution Agreement has been amended as contemplated by Section 2.4 of the License Agreement. The First Option Payment shall be applied to the purchase by RPR of ABI capital stock in accordance with the terms of the Stock Purchase Agreement.

2.3 First Option Period R&D Budget. RPR hereby agrees to pay to ABI certain funds for ABI to complete the production of the Manual CPS, and to perform related research and development of, and to produce the Automated CPS Package, in accordance with the First Option Period R&D Budget attached hereto as Exhibit A. RPR shall make payments to ABI pursuant to said budget on a monthly basis, payable monthly in advance, in accordance with the schedule and criteria set forth in the First Option Period R&D Budget. Said monthly payments shall be made by wire transfer on or before the first day of each calendar month during the First Option Period. The first monthly installment shall be paid by RPR to ABI within ten days after the date of this Agreement; provided, however, that RPR shall not be obligated to make any payments until the Cobe Distribution Agreement has been amended as contemplated by Section 2.4 of the License Agreement. ABI hereby represents and warrants that it believes that the funds to be provided to ABI pursuant to the First Option Period R&D Budget will be adequate to accomplish the objectives set forth in such budget. ABI shall provide RPR with copies of third party invoices and other necessary explanatory documentation relating to the First Option Period R & D Budget on a monthly basis.

2.4 Standstill. During the First Option Period, ABI shall not discuss with a third party any sale or license of any intellectual property or distribution, marketing, promotion or manufacturing rights owned or licensed to ABI relating to the use of any ABI device or technology for Lymphoid Cell Applications, except for discussions directly related to the sale of substantially all of the assets of ABI to, or a merger of ABI with, a third party.

2.5 Due Diligence Investigation by RPR. During this First Option Period, RPR shall continue to conduct further due diligence investigation concerning ABI, the CPS, and the potential use of the CPS for Lymphoid Cell Applications. ABI shall cooperate with and assist RPR with this due diligence investigation.

2.6 Election to Proceed with the Second Option Period. At any time prior to the expiration of the First Option Period, RPR may elect to initiate the Second Option Period, subject to and in accordance with the terms hereof, by delivering a written notice of said election to ABI (the "Second Option Notice"). RPR shall be entitled to

initiate the Second Option Period only so long as RPR is (i) not in default of its obligations to fund the First Option Period R&D Budget, and (ii) not otherwise in material default of its obligations pursuant to this Agreement.

2.7 RPR Election to Terminate. At any time during the First Option Period, RPR may elect to terminate the transactions contemplated by this Agreement. Said election shall be made by RPR delivering a written notice thereof to ABI. Upon any such termination, (i) RPR shall have no obligation to provide further funds for the First Option Period R&D Budget, so long as RPR has already paid to ABI (a) the funds specified by that budget up through the date of the termination, and (b) funds necessary to reimburse ABI for expenses reasonably incurred by it pursuant to the First Option Period R&D Budget prior to the date of termination, (ii) the License, Supply and Governance Agreements shall terminate, (iii) the $1,500,000 First Option Payment shall be credited as payment of the purchase price for the stock of ABI, pursuant to Section 2.2 of the Stock Purchase Agreement, (iv) the Stock Purchase, Arbitration and Confidentiality Agreements shall remain in full force and effect, (v) all technology and other intellectual property rights conceived and/or developed solely by ABI shall remain the sole property of ABI, with RPR having no rights therein, and (vi) ABI shall not be obligated to refund any monies which have been paid by RPR to ABI. ABI shall provide RPR with copies of third party invoices and other necessary explanatory documentation relating to the Second Option Period R & D Budget on a monthly basis.

3. Second Option Period.

3.1 Time Duration. The Second Option Period shall commence on the date (the "Second Option Period Initiation Date") that is the later of (i) the date RPR delivers the Second Option Notice in accordance with the provisions of Section 2.6, and (ii) the date that is three business days after ABI installs at AIS the Automated CPS Package and shall extend for six months thereafter.

3.2 Second Option Payment. Within ten (10) days after Second Option Period Initiation Date, RPR shall pay to ABI, by wire transfer, the sum of $2,000,000 (the "Second Option Payment"). The Second Option Payment shall be applied to the purchase of ABI capital stock in accordance with the terms of the Stock Purchase Agreement.

3.3 Second Option Period R&D Budget. During the First Option Period, the parties shall negotiate additional research and development work to be performed by ABI during the Second Option Period, and the payments to be made to ABI for such work. Such work and payments shall be set forth on the Second Option Period R&D Budget to be attached hereto as Exhibit B (the "Second Option Period R&D Budget"). RPR shall make payments to ABI pursuant to said budget on a monthly basis, payable monthly in advance, in accordance with the schedule and criteria set forth in the Second Option Period R&D Budget. Said monthly payments shall be made by wire transfer on or

before the first day of each calendar month during the Second Option Period. The first monthly installment shall be paid by RPR to ABI within ten days after the Second Option Period Initiation Date.

3.4 Standstill. During the Second Option Period, ABI shall not discuss with a third party any sale or license of any intellectual property or distribution, marketing, promotion or manufacturing rights owned or licensed to ABI relating to the use of any ABI device or technology for Lymphoid Cell Applications, except for discussions directly related to the sale of substantially all of the assets of ABI to, or a merger of ABI with, a third party.

3.5 Due Diligence Investigation by RPR. During the Second Option Period, RPR shall continue to conduct further due diligence investigation concerning ABI, the CPS, and the potential use of the CPS for Lymphoid Cell Applications. ABI shall cooperate with and assist RPR with this due diligence investigation.

3.6 Election to Proceed with the Third Option Events. At any time prior to the expiration of the Second Option Period, RPR may elect to proceed with the Third Option Events (defined below), subject to and in accordance with the terms hereof, by delivering to ABI a written notice of said election (the "Third Option Event Notice"). Upon delivery of the Third Option Event Notice, (i) the Supply Agreement and the Research and Development Collaboration Agreement shall each become effective, and (ii) RPR shall become obligated to acquire an additional $9.0 million of ABI capital stock in accordance with the terms of the Stock Purchase Agreement (collectively, the "Third Option Events"). RPR shall be entitled to proceed with the Third Option Events only so long as RPR is not then in material default under its obligations pursuant to this Agreement. Upon delivery of the Second Option Notice, RPR shall have no obligation to provide further funds for the First Option Period R&D Budget, other than (i) funds payable pursuant to that budget up through the date RPR delivers the Second Option Notice, and (ii) funds necessary to reimburse ABI for expenses reasonably incurred by it pursuant to the First Option Period R&D Budget prior to the date RPR delivers the Third Option Notice.

3.7 RPR Election to Terminate. At any time during the Second Option Period, RPR may elect to terminate the transactions contemplated by this Agreement. Said election shall be made (a) by RPR's delivering written notice thereof to ABI, or (b) by RPR's failing to deliver, prior to the expiration of the Second Option Period, the Third Option Event Notice. Upon any such termination, (i) RPR shall have no obligation to provide further funds for the Second Option Period R&D Budget, so long as RPR has already paid to ABI (a) the funds specified by that budget up through the date of the termination, and (b) funds necessary to reimburse ABI for expenses reasonably incurred by it pursuant to the Second Option Period R&D Budget prior to the date of termination, (ii) the License, Supply and Governance Agreements shall terminate, (iii) the First Option Payment and the Second Option Payment shall be credited as payment of the purchase price for the stock of ABI, pursuant to Section 2.2 of the Stock

Purchase Agreement, (iv) the Stock Purchase, Arbitration and Confidentiality Agreements shall remain in full force and effect, (v) all technology and other intellectual property rights conceived and/or developed solely by ABI shall remain the sole property of ABI, with RPR having no rights therein, and (vi) ABI shall not refund any monies which have been paid by RPR to ABI.

4. Execution of Stock Purchase Agreement; Purchase of Additional ABI Capital Stock.

4.1 On the date hereof, ABI and RPR shall execute the Stock Purchase Agreement.

4.2 If RPR elects to proceed with the Third Option Events, RPR may become obligated to purchase an additional $5.0 million of ABI capital stock upon the occurrence of the IPO, all in accordance with the terms of Section 8 of the Stock Purchase Agreement.

5. Execution of License Agreement; Grant of License to RPR.

On the date hereof, ABI and RPR shall execute the License Agreement, pursuant to which ABI shall grant RPR a worldwide, exclusive license under certain ABI intellectual property rights to the CPS for Lymphoid Cell Applications, all in accordance with the terms and conditions of the License Agreement.

6. Execution of Supply Agreement. On the date hereof, ABI and RPR shall execute the Supply Agreement, which shall become effective only upon delivery by RPR of the Third Option Event Notice.

7. Negotiation and Execution of Research and Development Collaboration Agreement. During the First Option Period, the parties shall negotiate an agreement which specifies the terms and conditions under which ABI shall conduct on behalf of RPR research and development with respect to the use of the CPS for Lymphoid Cell Applications (the "Research and Development Collaboration Agreement"). The Research and Development Collaboration Agreement shall include the terms set forth on Exhibit C hereto and such other commercially reasonable terms as the parties shall agree upon. The Research and Development Collaboration Agreement shall become effective only upon delivery by RPR of the Third Option Event Notice.

8. Termination of Letter of Intent. Effective upon the execution by both parties of this Agreement and each of the Other Implementing Agreements (except for the Research and Development Collaboration Agreement), the Letter of Intent is terminated and shall be of no further force and effect.

9. Public Announcement.

Any news release or other public announcement relating to this Agreement or any of the other Implementing Agreements, including any of the terms of any such agreement, or to the performance hereunder or thereunder, must be approved by both parties, which approval shall not be unreasonably withheld. Once the text or substance of an announcement has been so approved, it may be repeated without further approval. Any disclosure which is required by law may be made without the prior consent of the other party, although the other party shall be given prompt notice of any such legally required disclosure and an opportunity to comment on the proposed disclosure reasonably in advance to the extent feasible. Further, the disclosing party shall make diligent efforts to limit the nature and scope of any disclosure to the extent reasonably possible and to otherwise prevent the disclosure of the non-disclosing party's Confidential Information.

10. ABI Merger Contingency.

If RPR delivers the Third Option Event Notice, and if ABI enters into a written agreement with a third party before ninety (90) days after the Activation Date evidencing ABI's intent to merge with or be acquired by the third party (except COBE BCT, Cobe Laboratories or Gambro, and except a merger or acquisition pursuant to which (i) the shareholders of ABI retain a majority ownership interest in the surviving entity, (ii) no other shareholder (other than ABI's current shareholders) will, upon consummation, own and/or have the right to acquire more than 20% of the voting securities of the surviving entity, and (iii) the senior management of ABI shall, upon consummation of the merger or acquisition, remain employed by the surviving entity in substantially similar capacities as the capacities in which such persons are employed prior to the merger or acquisition), then ABI shall give written notice thereof to RPR; and RPR shall have a right for a period of up to ninety (90) days following RPR's receipt of said notice to elect to rescind all of the Implementing Agreements, by delivering to ABI a written notice of rescission within said ninety (90) days. Within ninety (90) days following ABI's receipt of said notice of rescission, ABI shall refund to RPR all monies paid by RPR to ABI pursuant to the Letter of Intent and the Implementing Agreements (including without limitation all funds paid pursuant to the First Option Period Budget and the Second Option Period Budget), together with interest thereon accruing from the date ABI received the monies until the monies are refunded to RPR, using as the interest rate the average of the prime rate reported by the Bank of New York during the period from June 20, 1995 through the date of the payment. Upon receipt of such funds, RPR shall deliver to ABI for cancellation all certificates representing shares of ABI capital stock acquired by RPR pursuant to the Stock Purchase Agreement. ABI shall keep RPR fully informed as to the terms, status and progress of the proposed merger or sale transaction with the third party, excluding only such Confidential Information which the merger or sale party requires to be kept secret.

11. Representations.

11.1 Mutual Representations. ABI and RPR each represent to the other party that (i) it has the authority and right to enter into and perform this Agreement and the other Implementing Agreements, and (ii) its execution, delivery and performance of this Agreement and the other Implementing Agreements will not conflict in any material manner with the terms of any other agreement to which it is or becomes a party.

11.2 Representations from Implementing Agreements. ABI and RPR each hereby incorporate by reference in this Agreement the representations and warranties made by such party in the other Implementing Agreements.

12. Arbitration. Except as set forth in subparagraph 12.1 below, any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be settled by binding arbitration in accordance with the Arbitration Agreement. If the parties cannot timely execute the Arbitration Agreement, the dispute shall be resolved in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("AAA").

12.1 Equitable Court Remedies. Each party recognizes and acknowledges that a breach by the other of any of its covenants, agreements or undertakings hereunder relating to confidentiality and non-use of confidential information and ownership and use of intellectual property will cause irreparable damage which cannot be readily remedied in damages and in an action at law, and may, in addition thereto, constitute an infringement of a party's proprietary rights, thereby entitling such party to equitable remedies and costs. Accordingly, notwithstanding the provisions of this Section 12, each party reserves the right (and the other party agrees not to contest such right) to seek injunctive relief and other equitable remedies in a court of competent jurisdiction, instead of arbitration, with respect to the enforcement by each party of such rights.

13. Confidentiality. ABI and RPR hereby confirm the validity of, and warrant their continued compliance with, the Confidentiality Agreement, which shall continue in effect.

13.1 Additionally, each of the parties hereby agrees that during the period begin on the date hereof, and ending on the date that is five years after the last to expire or terminate of the Implementing Agreements, it will (i) maintain in confidence all Confidential Information of the other party (including without limitation all Confidential Information received or obtained as a result of either party's performance under any of the Implementing Agreements), (ii) not disclose the other party's Confidential Information without the prior written consent of such party, and (iii) will not use the other party's Confidential Information for any purpose except those permitted by the Implementing Agreements.

13.2 A party shall have the right to disclose the other party's Confidential Information to those of its directors, officers, employees and consultants to whom disclosure is necessary to enable such party's performance under the Implementing Agreements, provided that such persons have undertaken confidentiality obligations at least as strict as those undertaken in this Agreement.

13.3 In fulfilling its obligations under this Section 13, a party shall use the same level of efforts to protect from disclosure the other party's Confidential Information as it uses to protect its own most sensitive Confidential Information, which efforts shall in any event be less than reasonable efforts.

14. General Provisions.

14.1 Independent Contractors. The relationship between ABI and RPR is that of independent contractors. ABI and RPR are not joint venturers, partners, principal and agent, master and servant, or employer or employee, and they have no other relationship other than independent contracting parties. Neither party shall have any power to bind or obligate the other in any manner, other than as is expressly set forth in this Agreement.

14.2 Consents Not Unreasonably Withheld. Whenever provision is made in this Agreement for either party to secure the consent or approval of the other, that consent or approval shall not be withheld unreasonably. Whenever in this Agreement provisions are made for one party to object to or disapprove a matter, except as expressly provided otherwise herein (i.e., a decision to be made in the sole discretion of the party), such objection or disapproval shall not be exercised unreasonably or delayed.

14.3 Assignment. Neither this Agreement nor any rights granted hereunder may be assigned or transferred by either party, except with the prior written consent of the other party, which consent shall not be withheld unreasonably, and except in the event of an assignment by a party of all other Implementing Agreements in accordance with the terms thereof.

14.4 Binding Upon Successors and Assigns. Subject to the limitations on assignment herein, this Agreement shall be binding upon and inure to the benefit of any successors in interest and permitted assigns of the parties. Any such successor or assignee of a party's interest shall expressly assume in writing the performance of all the terms and conditions of this Agreement to be performed by such party.

14.5 Entire Agreement; Modification. This Agreement, including the Exhibits, and the other Implementing Agreements and the Confidentiality Agreement, set forth the entire agreements and understandings between the parties as to the subject matters set forth herein and therein. There shall be no amendments or modifications to this

Agreement or the Exhibits, except by a written document which is signed by both parties. The parties acknowledge that they are also approving the other Implementing Agreements at this time.

14.6 Applicable Law. This Agreement shall be construed and enforced in accordance with the internal laws of the Commonwealth of Pennsylvania.

14.7 Headings. The headings for each article and section in this Agreement have been inserted for convenience of reference only and are not intended to limit or expand on the meaning of the language contained in the particular article or section.

14.8 Severability. If any one or more of the provisions of this Agreement is held to be invalid or unenforceable by the arbitration proceedings specified in Section 12 from which no appeal can be or is taken, the provision shall be considered severed from this Agreement and shall not serve to invalidate the remaining provisions thereof. The parties shall make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

14.9 No Waiver. Any delay in enforcing a party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such party's rights to the future enforcement of its rights under this Agreement, excepting only as to an express written and signed waiver as to a particular matter for a particular period of time.

14.10 Export Controls. This Agreement is made subject to any restrictions concerning the export of products or technical information from the United States of America which may be imposed upon or related to ABI or RPR from time to time by the government of the United States of America. Furthermore, ABI and RPR each agree that it will not export, directly or indirectly, any technical information acquired from the other under this Agreement or any products using such technical information to any country for which the United States government or any agency thereof at the time of export requires an export license or other governmental approval, without first obtaining the written consent to do so from the Department of Commerce or other agency of the United States government when required by an applicable statute or regulation.

14.11 No Implied Licenses. No licenses by one party to the other are granted under this Governance Agreement, including the Exhibits, by implication or estoppel.

14.12 Notices. Any notices required by this Agreement shall be in writing, shall specifically refer to this Agreement and shall be sent by certified U.S. mail, or by express delivery service such as Federal Express or DHL, or by personal delivery, or by telefacsimile transmission, and shall be sent or delivered to the respective

addresses and telefacsimile numbers set forth below unless subsequently changed by written notice to the other party:

For ABI:	AASTROM Biosciences, Inc. P.O. Box 376 Ann Arbor, MI 48106 Attention: President Fax: (313) 665-0485
With copy to:	T. Knox Bell Gray Cary Ware & Freidenrich 401 B Street, Suite 1700 San Diego, CA 92101 Fax: (619) 236-1048
For RPR:	RPR GENCELL Cell and Gene Therapy Division Rhone-Poulenc Rorer Inc. 500 Arcola Road P.O. Box 1200 Collegeville, PA 19426-0107 Attention: President and General Counsel Fax: (610) 454-8984 and 454-3808

Notices shall be deemed delivered upon receipt at the respective party's address or telefacsimile number as set forth above.

14.13 Compliance with Laws. Each party shall perform its obligations and conduct its affairs with respect to this Agreement in compliance with all applicable laws and governmental regulations. If any permit, authorization, registration, license or other governmental approval is required in connection with the performance of this Agreement, the same shall be obtained by the party or parties as required.

14.14 Counterparts. This Agreement may be executed in counterparts, including by facsimile, each of which shall be deemed to be an original, but all of which shall together constitute one and the same Agreement.

IN WITNESS WHEREOF, the parties have executed and delivered this Agreement as of the date first set forth above.

AASTROM BIOSCIENCES, INC.

By: /s/ R. Douglas Armstring

Name: R. Douglas Armstrong, Ph.D.
Title: President and CEO

RHONE-POULENC RORER INC.

By: /s/ Thierry Soursac

Name: Thierry Soursac
Title: Senior Vice President,
Rhone-Poulenc Rorer, Inc.
General Manager, RPR Gencell

[LETTERHEAD OF AASTROM BIOSCIENCES, INC.]

EXHIBIT A

September 5, 1995

Josef Bossart and
Robert Werner
Rhone-Poulenc Rorer
500 Arcola Road
P.O. Box 1200
Collegeville, PA 19426-0107

Dear Jo and Rob,

Having received from AIS the research program plan for the manual system (current configuration) evaluation and testing, along with your stated objectives for this program, I have attempted to bring this information together as an overall plan. The major events and timelines are listed below, and the more detailed materials are attached.

1 Definition of Terms

Phase I:	the initial agreement phase per the term sheet, triggered by document execution and payment of the $1.5 million to AASTROM.
Phase II:	the second agreement phase, per the term sheet, triggered by the automated CPS installation and payment of the $2.0 million to AASTROM.
Phase III:	the third agreement phase, per the term sheet, triggered by the payment of the $9.0 million to AASTROM.
Period One Manual CPS Budget or Program:	the ABI expense budget to support the AIS/ABI manual CPS research for the period between 9/8/95 to 2/7/96.
Period Two Manual CPS Budget or Program:	the ABI expense budget to support the AIS/ABI manual CPS research and optimization for the period 2/8/96 to 9/7/96.
Period One Automated CPS Budget or Program:	the ABI expense budget to support the build/test/set-up of the Automated CPS milestone needed to initiate Phase II.
Period Two Automated CPS Budget or Program:	the ABI expense budget to support the AIS research/evaluation of the Automated CPS for the period between the initiation of Phase II and the initiation of Phase III.
Automated CPS Decision Date:	the date at which RPR will determine whether or not to trigger the Period One Automated CPS Budget, and the activities inherent in that plan.

II Time/Event Overview

A. Initiation of Phase I 9/8/95

B. Automated CPS Decision Date 10/8/95 or earlier

C. Initiation of Phase II
- the earlier of either: 2/8/96

- or (as approved by RPR) date of Auto-CPS
--
installation at AIS

D. Period One Manual CPS Budget/Program

Period: 9/8/95 - 2/7/96
Budget: *

E. Period One Automated CPS Budget/Program

Period: 10/8/95 - Phase II initiation
Budget: *

F. Period Two Manual CPS Budget/Program

Period: 2/8/96 - 9/7/96
Budget: to be determined by 12/8/95

G. Period Two Automated CPS Budget/Program

Period: Phase II initiation to 9/7/96
Budget: to be determined by 12/8/95

Under the format described above, the term sheet agreement dates with respect to the option periods and related payments can be movable at RPR's election without affecting the research plan/budget which is fixed to activities which may overlap the calendar dates of the option periods. In other words, and for example, the manual CPS research budgets for the first 6 months are set and would not need to be altered should RPR elect to have the Automated CPSs installed earlier than 6 months.

Hopefully, this format provides the mechanism to meet all basic objectives set by RPR and AASTROM.

Please let me know if additional clarification or discussion would be of benefit.

Thank you.

Sincerely,

/s/ R. Douglas Armstrong
R. Douglas Armstrong, PH.D.
President and Chief Executive Officer

ROA:pp *CONFIDENTIAL PORTION REDACTED AND FILED
Attachments SEPARATELY WITH THE COMMISSION

EXHIBIT A

(continued)

*

*CONFIDENTIAL PORTION REDACTED AND FILED
SEPARATELY WITH THE COMMISSION

EXHIBIT B

Second Option Period R&D Budget

GENCELL EVALUATION
Phase II Evaluation
April 1996 - September 1996

Cost Summary:	
Personnel and Associated Costs	*
Travel	*
Laboratory Supplies	*
Other Project Supplies	*
Bioreactors and Disposables	*
Consulting and Contract Services	*
Equipment	*
	*
Facilities and Support	*
Total Costs	*

*CONFIDENTIAL PORTION REDACTED AND FILED SEPARATELY WITH THE COMMISSION

EXHIBIT C

PROVISIONS TO BE INCLUDED AS PART OF RESEARCH AND DEVELOPMENT COLLABORATION AGREEMENT

1. RPR will fund all research and development to be conducted pursuant to the Research and Development Collaboration Agreement. The scope of such research and development will be determined by RPR after consultation with ABI.

2. All inventions, discoveries and improvements developed, conceived or reduced to practice during the course of or as a result of the work to be performed pursuant to the Research and Development Collaboration Agreement ("R & D Inventions") would, to the extent such R & D Inventions were invented by ABI (such R & D Inventions being referred to herein as ABI Invented R & D Inventions), be included within the definition of ABI Technology and be part of the License. R & D Inventions which are embodied in modifications to or improved operation of the Aastrom CPS shall be the exclusive property of ABI, or be exclusively licensed to ABI, on a royalty free basis, solely for use outside the field of Lymphoid Cell Applications.

3. All R & D Inventions shall be the exclusive property of RPR, or be exclusively licensed to RPR for use in the Field, for a negotiated royalty and/or cost of goods pricing in a supply agreement, with the rights to manufacture licensed products to be apportioned among the parties in the most business sensible manner.

4. The filing, prosecution and maintenance of patent applications, as well as the prosecution of infringement proceedings, relating to R & D Inventions would be as set forth in this License Agreement.

5. It is expected that the Research and Development Collaboration Agreement will have a term of two (2) years.

6. If RPR terminates the Supply Agreement, ABI shall have non-exclusive rights, on a royalty free basis, to all R & D Inventions in which RPR has any ownership interest, to use for all purposes related directly to the CPS, including use of the CPS in the Field.

EXHIBIT 10.33

LICENSE AGREEMENT

Between

AASTROM BIOSCIENCES, INC.

and

RHONE-POULENC RORER INC.

LICENSE AGREEMENT

This Agreement is entered into as of September 15, 1995 (the "Effective Date") by and between AASTROM Biosciences, Inc., a Michigan corporation ("ABI"), and Rhone-Poulenc Rorer Inc., a Delaware corporation ("RPR").

RECITALS

A. This Agreement sets forth the license to be granted by ABI to RPR pursuant to the Governance Agreement, together with the rights and obligations of the parties with respect to said license.

B. ABI is the owner of the ABI Owned Patent Rights.

C. ABI is the exclusive licensee of the ABI In-Licensed Patent Rights.

D. ABI is the owner, licensee or assignee of the ABI Know-How.

E. Simultaneously with the parties entering into this Agreement, the parties are also executing the other Implementing Agreements (other than the Research and Development Collaboration Agreement and the Arbitration Agreement).

IN WITNESS WHEREOF, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, hereby mutually agree as follows

1. Definitions. As used in this Agreement, the following terms have the meanings set forth below.

"Arbitration Agreement" means the agreement to be executed by ABI and RPR prior to the end of the First Option Period and governing the procedures utilized to resolve disputes involving the Implementing Agreements.

"Aastrom Gene Loader" means the products of ABI whose principle purpose or characteristic is the directed-motion or deposition delivery of vectors to target cells, including devices configured to implement these processes, which products are partially described in the patent applications listed on Exhibit A-1.

"ABI" means AASTROM Biosciences, Inc., a Michigan corporation.

"ABI Confidential Know-How" means the ABI Know-How which also is Confidential Information.

"ABI In-Licensed Patent Rights" means the Patent Rights described in Exhibit

B attached hereto, and any Patent Rights which ABI hereafter licenses from a third party which RPR and ABI agree are useful for the development, manufacture or use of the CPS (but only to the extent such Patent Rights are not already licensed to a third party for use in the Field).

"ABI Know-How" means any Know-How which ABI owns or has licensed from a third party as of the date hereof and which is useful for the development, manufacture or use of the CPS, and any other Know-How which ABI hereafter acquires or licenses from a third party which is useful for the development, manufacture, or use of the CPS (but only to the extent that such Know-How is not already licensed to a third party for use in the Field).

"ABI Owned Patent Rights" means the Patent Rights described in Exhibit A attached hereto, and any other Patent Rights which ABI hereafter acquires or develops which RPR and ABI agree are useful for the development, manufacture or use of the CPS (but only to the extent that such Patent Rights are not already licensed to a third party for use in the Field).

"ABI Patent Rights" means the ABI Owned Patent Rights and the ABI In-Licensed Patent Rights.

"ABI Technology" means the ABI Owned Patent Rights, the ABI In-Licensed Patent Rights and the ABI Know-How.

"Addressed Application" means (i) a Grandfathered Competing Product Application, until the expiration of the time period calculated pursuant to Section 4.1.1 hereof, or (ii) an Application within the Field to which RPR or its Affiliates (A) are currently using or selling Licensed Product, or (B) have an ongoing program with respect to the development of Licensed Product or a Potential Licensed Product for use in such Application.

"Affiliate" shall mean any company or other legal entity in which a party holds, directly or indirectly, at least forty percent (40%) or more of (i) the capital, (ii) the income interest in the company or other legal entity, (iii) the voting rights or (iv) the right to elect or appoint directors.

"AIS" means Applied Immune Sciences, Inc., a Delaware corporation and an Affiliate of RPR.

"Application" means (a) the expansion of any Lymphoid Cell for one or more therapeutic uses, or (b) the transfection of a specific Lymphoid Cell type modified with a naturally occurring gene or a synthetic modification thereof for a specific therapeutic use. By way of example, one Application is tumor infiltrating lymphocytes (TIL), such that TIL therapy for renal cell carcinoma and TIL therapy for breast cancer are part of the same Application. Similarly, CD8 cells transfected with

IL-2 and T-cells transfected with p53 constitute different Applications, regardless of therapeutic use.

"Automated CPS" means the automated CPS developed by ABI as a system for growing cells ex vivo for human therapeutic purposes, which in its basic format consists of Disposables and Durables, together with modifications and improvements thereof.

"Blocking Patent Rights" means with respect to an Unaddressed Application, exclusive patent rights which are held by a third party and which RPR and ABI shall mutually agree prevent RPR from freely using the Licensed Product for the Unaddressed Application without obtaining a license from such third party with respect to such exclusive patent rights.

"Cobe" means Cobe Laboratories, Inc., a Colorado corporation.

"Cobe Distribution Agreement" means the Distribution Agreement, dated October 22, 1993, between ABI and COBE, as amended to the date hereof.

"Competing Product" means any cell expansion device or process (other than Licensed Product) which is used to grow a substantially increased number of cells ex vivo to treat a single individual for a particular therapuetic use within the Field. Competing Products shall be determined on a country by country basis, and on a therapy by therapy basis, and a device shall not be deemed to be a Competing Product in a particular country unless and until the Licensed Product shall have received the necessary Government Approvals in that country for the relevant therapeutic use.

"Commercialization Plan" has the meaning provided in Section 4.2.1 hereof.

"Confidential Information" means all confidential information, trade secrets and other proprietary information which belongs to a party and which the party keeps confidential for the business advantage of the party. Without limiting the generality of the foregoing, a party's confidential information includes the following information and items which the party endeavors to keep confidential: technology, know-how, inventions, pending patent applications, data, formula, studies, devices, materials, investigations, reports, lists of actual or potential customers, clients and vendors, financial reports and projections, marketing reports and projections, software programs, manufacturing pre-production drawings, prototypes, business plans, business records, scientific evaluations, and so forth. Notwithstanding the foregoing, "Confidential Information" does not include information which:

(a) is publicly disclosed, except by breach of an agreement of confidentiality ;

(b) the receiving party can establish by written proof was in its

possession at the time of disclosure by the owning party and was not acquired directly or indirectly from the owning party or from any third party under an agreement of confidentiality to the owning party;

(c) the receiving party receives from a third party legally in a position to provide the receiving party with such information, provided that such information was not obtained by said third party directly or indirectly under an obligation of secrecy; or

(d) has been independently developed by the receiving party without the aid, application or use of the owning party's Confidential Information.

"Confidentiality Agreement" means the Mutual Confidentiality Agreement, dated as of January 13, 1995, by and between RPR, ABI, AIS and Rhone-Poulenc Rorer Pharmaceuticals, Inc.

"CPS" means any system or device for substantially increasing the number of cells, ex vivo, for human therapeutic uses, that may be configured in different component structures (such as described for the Automated CPS or the Manual CPS). For purposes of clarity, CPS does not include a system or device (i) which provides for cell manipulation, such as for gene transfer into cells through steps, that does not grow a substantially increased number of cells, such as the Aastrom Gene Loader, or (ii) which stores cells, but does not grow a substantially increased number of cells.

"Defaulting Party" has the meaning provided in Section 18.2.1 hereof.

"Disposables" means the cell growth cassette configured to be received and operated by the Automated CPS incubator and/or Automated CPS processor, and consisting of a medium supply container unit, and a separate unit consisting of a cell growth chamber, a waste medium container, and a harvest container (or means for attachment of a harvest container); all such units appropriately connected as a fluid pathway and manufactured as a sterile product for the expansion of human cells; each as more completely described in ABI's product specifications for the Automated CPS.

"Durables" means the major components of the CPS (other than the Disposables), including (i) the Automated CPS incubator, an instrument configured to receive and operate the Disposables; (ii) the Automated CPS processor, an instrument configured to receive and operate the Disposables for medium priming, cell distribution and/or cell harvesting; and (iii) the Automated CPS monitor, an instrument configured to display information to the user regarding the operational status of one or more of the Automated CPS incubators; each as more completely described in ABI's product specifications for the Automated CPS.

"Exercise Period" has the meaning provided in Section 6.2 hereof.

"Field" means Lymphoid Cell Applications.

"First Option Period" has the meaning provided in the Governance Agreement.

"Funding Commitment" means a commitment by a third party to provide all reasonably anticipated funding for the development and commercialization of the Automated CPS for a specific therapeutic indication, wherein the ability of the third party to provide such funding is, at the time the committment is made, reasonably certain. By way of illustration, an Unaddressed Application Proposal made by a start-up or development stage company which is supported by a proposal to raise the necessary funds through the sale of equity or issuance of debt would not be deemed to include a Funding Commitment. For the avoidance of doubt, a Funding Commitment need not consist of a guarantee by the third party to provide the required funding under any circumstances, but rather an agreement by the third party that it will provide such funding only to the extent it retains any rights related to the Automated CPS for the specific therapeutic indication.

"Governance Agreement" means the Governance Agreement of even date herewith between ABI and RPR.

"Government Approval" means any approvals, licenses, registrations or authorizations, howsoever called, of any federal, state or local regulatory agency, department, bureau or other government entity, anywhere in the world, necessary for the use of Licensed Product in a cell therapy.

"Grandfathered Competing Product Applications" means the "bag method" Competing Product as used in the Major Pharmaceutical Markets for either of the following applications: (a) TIL treatment of renal cell carcinoma; and (b) peripheral PBMC treatment of HIV infected patients, and (c) any other applications in the areas of TIL therapy, or PBMC therapy for HIV related disease, for which a clinical trial has been initiated by RPR or its Affiliates prior to the earlier of the validation and availability of the Automated CPS or September 14, 1997.

"Implementing Agreements" means the Governance Agreement, the Supply Agreement, the Research and Development Collaboration Agreement, the Stock Purchase Agreement, the Arbitration Agreement and this Agreement.

"Know-How" means all technical data, whether or not tangible, processes, formula, materials and information, techniques, discoveries, inventions, ideas, methods and processes, whether or not patentable, but for which patent applications have not been filed and published, including without limitation, any and all data, preclinical and clinical results, drawings, plans, diagrams, specifications, and other

proprietary information.

"License" means the exclusive license granted to RPR pursuant to the terms of Section 2.1 hereof.

"Licensed Product" means the Automated CPS (both the Durables and the Disposables) as used for one or more specific Lymphoid Cell Applications, for which product ABI and RPR have approved the specifications for the CPS and the financial terms for ABI to manufacture and sell the CPS to RPR pursuant to the Supply Agreement, plus such other CPS products for use in the Field for which ABI and RPR mutually approve the specifications and financial terms pursuant to the Supply Agreement.

"Lymphoid Cell" means lymphoid stem cell (e.g., any cell capable of generating cells solely of lymphoid lineage) and any cell derived therefrom, including but not limited to, the subcortical thymocyte, cortical thymocyte, medullary thymocyte, lymphocyte, B-cell, plasma cell, immunoblast, lymphoplasmacytoid cell and the NK-cell.

"Lymphoid Cell Applications" means any production, expansion, selection or genetic manipulation, including genetic transformation, of Lymphoid Cells, provided that either the starting cell population is a lymphoid selected cell mixture, or that the mature lymphoid cell production is not derived ex vivo from a pre-lymphoid cell-type (e.g., multipotent stem cell).

"Major Pharmaceutical Market" means (i) the United States and Canada, (ii) the aggregate of Germany, France, Spain, Italy and the United Kingdom, and (iii) Japan (collectively, the "Initial Major Pharmaceutical Markets"), and any additional country which hereafter shall come to constitute three percent 3% or more of the worldwide market for pharmaceuticals, measured on the basis of dollars spent for the consumption of pharmaceuticals.

"Non-Defaulting Party" has the meaning provided in Section 16.2 hereof.

"Patent Rights" means all letters patent and pending applications for patents of the United States and all countries foreign thereto, including regional patents, and all reissues, divisions, continuations, continuations-in-part, extensions (including, without limitation, any extensions thereof under the United States Patent Term Restoration Act or otherwise), substitutions, renewals, confirmations, supplementary protection certificates, registrations, revalidations or additions of any of the foregoing, as applicable.

"Potential Licensed Product" means a CPS product for use in the Field for which product ABI and RPR have not yet mutually approved the specifications and financial terms pursuant to the Supply Agreement. By way of explanation, a

Potential Licensed Product may be a concept-stage CPS which has not yet been the topic of discussion between ABI and RPR.

"Proposed Other Agreements" has the meaning provided in Section 6.2 hereof.

"Regulatory Approval Plan" has the meaning provided in Section 7.1.1 hereof.

"Research and Development Collaboration Agreement" means the agreement with that title to be negotiated by RPR and ABI during the First Option Period, which will become effective if RPR exercises its option to proceed with the Third Option Events in accordance with the provisions of the Governance Agreement.

"RPR" means Rhone-Poulenc Rorer Inc., a Delaware corporation.

"RPR Business" has the meaning provided in Section 2.5 hereof.

"RPR Improvements" means any ideas, discoveries or improvements relating to the ABI Technology conceived, made or reduced to practice by ABI and/or RPR arising out of or during the course of any work performed pursuant to the Governance Agreement or the Research and Development Collaboration Agreement.

"SEC" means the United States Securities and Exchange Commission.

"Second Option Payment" means the sum of $2,000,000 payable by RPR to ABI, as specified in Section 3.2 of the Governance Agreement.

"Second Option Period" has the meaning provided in Section 3.1 of the Governance Agreement.

"Supply Agreement" means the agreement with that title between RPR and ABI, dated as of the date hereof, which will become effective if RPR exercises its option to proceed with the Third Option Events in accordance with the provisions of the Governance Agreement.

"Third Option Event Notice" has the meaning provided in Section 3.6 of the Governance Agreement.

"Third Party Improvements" means any ideas, discoveries or improvements relating to the ABI Technology conceived, made or reduced to practice by ABI and/or a third party in connection with an Unaddressed Application Agreement.

"Unaddressed Application" means an Application (other than a Grandfathered Competing Product Application) within the Field with respect to which RPR and its Affiliates (i) are not currently using or selling Licensed Product, or (ii) do not have an ongoing program with respect to the development of Licensed Product or any Potential Licensed Product for use in such Application.

"Unaddressed Application Proposal" has the meaning provided in Section 4.3 hereof.

"Unaddressed Market Proposal" has the meaning provided in Section 4.3 hereof.

2. Grant of License.

2.1 Grant of License. Subject to the terms, limitations, restrictions and reservations set forth in this Agreement, ABI hereby grants to RPR a sole and exclusive worldwide license or sublicense, as applicable, to the ABI Technology for the CPS in the Field.

2.1.1 By way of explanation of the terms, limitations, restrictions and reservations set forth in this Agreement provided for hereinbelow, the License grant of Section 2.1 includes, but is not limited to, the following restrictions and rights:

a. to use, sell, offer to sell, lease and/or import Licensed Product supplied by ABI pursuant to the Supply Agreement;

b. to make, have made and manufacture Licensed Product in the event ABI defaults in its obligation to manufacture and supply Licensed Product in accordance with the terms of the Supply Agreement, but only to the extent so permitted in the Supply Agreement; and to use, sell, offer to sell, lease and/or import said Licensed Product;

c. to enforce RPR's exclusively licensed ABI Patent Rights and ABI Confidential Know-How against ABI and/or a third party who infringes the ABI Patent Rights or uses the ABI Confidential Know-How for the CPS in the Field, except for rights reserved hereunder by ABI or for acts otherwise authorized under this Agreement; and

d. to conduct research and development activities incidental to using the CPS in the Field.

2.2 Right to Manufacture. RPR hereby grants to ABI and its designees the exclusive right to manufacture CPS for RPR and its Affiliates subject to the terms of the Supply Agreement.

2.3 Restriction. For the avoidance of doubt, the License shall not include the grant to RPR of the right under the ABI Technology: (a) to make, have made, use, sell, offer to sell, license, lease and/or import any CPS for any fields of use or applications outside the Field, or (b) to make, use or sell any product or to provide any service which would infringe the ABI Patent Rights or use the ABI Confidential Know-How, other than for CPS.

2.4 COBE's Rights.

2.4.1. ABI has entered into the Cobe Distribution Agreement, pursuant to which Cobe has exclusive, worldwide rights to distribute the CPS for stem cell applications. RPR hereby acknowledges receipt and review of a copy of the Cobe Distribution Agreement. On or prior to the date hereof, ABI and Cobe have amended the Cobe Distribution Agreement to delete from Section 2.01(d) thereof the provisions which permit Cobe to sell the Products (as such term is defined in the Cobe Distribution Agreement) to its Affiliates (as such term is defined in the Cobe Distribution Agreement) for Lymphoid Cell Applications.

2.4.2 In the event of any breach (actual, threatened or apparent) by Cobe of Cobe's obligations pursuant to Sections 2.01(d), 2.05(c) (iii), 2.05(c) (iv) or 2.05 (d) of the Cobe Distribution Agreement relative to Lymphoid Cell Applications, ABI, RPR and Cobe shall pursue good faith discussions in an attempt to resolve the matter to the mutual satisfaction of all parties. If a satisfactory resolution is not reached promptly, then ABI hereby authorizes RPR to pursue appropriate legal proceedings against Cobe to obtain remedies for such breach, which proceedings shall be at the expense of RPR. In the event ABI is required to be a necessary party in said legal proceedings, then ABI shall join as a plaintiff party in said proceedings, at the expense of RPR. Any recovery or other settlement obtained in such proceedings shall be the sole property of RPR.

2.4.3 ABI hereby agrees not to amend the Cobe Distribution Agreement so as to diminish the rights or restrictions provided in Sections 2.01(d), 2.05(c) (iii), 2.05(c) (iv) or 2.05 (d) thereof without the prior written consent of RPR.

2.4.4 Notwithstanding the provisions in Section 3.03(b) of the Cobe Distribution Agreement, ABI hereby agrees that ABI will not provide any training to Cobe or Cobe's Affiliates (as such term is defined in the Cobe Distribution Agreement) or customers for use of any CPS for Lymphoid Cell Applications.

2.4.5 Notwithstanding anything to the contrary contained herein, no rights are granted to RPR which would conflict with or impair the rights granted to Cobe in the Cobe Distribution Agreement (as so amended). This Agreement shall be construed, enforced and implemented so as to define and limit the rights granted to RPR in this Agreement so as to not conflict with or impair the rights granted to Cobe in the Cobe Distribution Agreement (as so amended).

2.5 RPR Business. This Agreement is being entered into on the understanding that RPR and its Affiliates will be engaged in the business of providing cell therapy-related services and/or products for Lymphoid Cell Applications (the "RPR Business"). If RPR and/or its Affiliates ceases to conduct the RPR Business after a Governmental Approval as contemplated by Section 8 hereof has been obtained, (i) then RPR shall not be entitled to assign or sublicense its rights under this Agreement to a third party without the prior written approval of ABI, which approval shall be dependent upon the capability of the assignee or sublicensee to reasonably optimize the market commercialization of Licensed Product; and (ii) if such an assignment or sublicense does not occur, then ABI shall be entitled to terminate this Agreement.

2.6 Reserved Rights. ABI reserves the right to use the ABI Technology within the Field for (a) making and selling Licensed Product or Potential Licensed Product (i) for the user's non-commercial research purposes or (ii) labeled "Not For Human Use", (b) with the prior written consent of RPR, conducting preclinical research in collaboration with commercial third parties with respect to the use of the CPS for applications within the Field which are not being (or to be) pursued by RPR as an Addressed Application, (c) internal research by ABI with respect to the use of the CPS for applications within the Field, and (d) fulfilling its obligations under the Supply Agreement and/or the Research and Development Collaboration Agreement.

2.7 Exclusive Right. Except as permitted by Sections 2.6, 4.3.2, 5 or 6 hereof, ABI shall not grant any rights to any third party, and ABI shall not exercise any rights for itself (other than pursuant to the Supply Agreement), to use, license, lease, make, import, market, distribute, promote, sell and/or have sold any CPS for Lymphoid Cell Applications. Any agreement with respect to the sale or other transfer of any CPS by ABI to any third party (other than a sale or other transfer permitted by Sections 2.6, 4.3.2, 5 or 6) shall expressly provide that (i) the CPS may not be used (either by the third party or its customers) for Lymphoid Cell Applications, and (ii) RPR shall be a third party beneficiary of such provision.

2.8 Sublicensees. The License shall include the right to grant sublicenses under the License to RPR's Affiliates and to such third parties who are participants in the RPR Business. So long as RPR and its Affiliates continue to conduct the RPR Business in the United States, RPR may also grant sublicenses under the License to qualified third parties in foreign countries who conduct a business similar to the RPR Business. RPR shall also have the right to grant sublicenses under the License to third parties solely to enable such third parties to conduct research and development with respect to the use of the CPS in the Field. Any RPR sublicensee shall be bound by all of the terms of this Agreement, particularly including the limited field of use and the confidentiality obligations. A copy of any such sublicense agreement shall be furnished to ABI prior to the sublicensee exercising any rights thereunder. Except as provided in this Section 2.8, RPR shall not grant any sublicenses under the License without the prior written approval from ABI.

2.9 Early Termination of License. Pursuant to the Governance Agreement, RPR has certain options to continue the rights specified in the Governance Agreement, including rights specified in this Agreement. Notwithstanding anything else to the contrary contained in this Agreement, the License and this Agreement shall terminate automatically and be of no further force or effect in the event that RPR does not (a) pay the Second Option Payment to ABI before the expiration of the First Option Period, or (b) deliver the Third Option Event Notice before the expiration of the Second Option Period, all in accordance with the terms of the Governance Agreement.

2.10 Third Party Relationships. In order to protect the exclusivity of the License, except as may otherwise be agreed upon by RPR in writing, and except as is otherwise expressly permitted in this Agreement, ABI will not enter into any agreement, arrangement or understanding, whether oral or written, with a third party which would (i) grant to such third party any rights to make, have made, use, sell, have sold, offer to sell or import Licensed Product or Potential Licensed Product for use in the Field, or (ii) permit such third party to assert any claim with respect to the manufacture, use, sale or importation of Licensed Product or Potential Licensed Product for use in the Field.

2.11 Field of Use Compliance. In order to insure field of use compliance by all interested parties, a portion of the research to be conducted pursuant to the Governance Agreement and the Research and Development Collaboration Agreement will be focused on developing and implementing modifications to the Automated CPS which will endeavor to prevent use of any Automated CPS sold to RPR and its Affiliates for any field of use other than Lymphoid Cell Applications. ABI likewise agrees to use reasonable efforts to develop and implement modifications to ABI's other CPS products which are sold to third parties (other than RPR and its Affiliates) which will endeavor to prevent the use of such other CPS products for Lymphoid Cell Applications for which a Licensed Product is available or for any other Addressed Application. Any agreement with respect to the sale or other transfer of the CPS by RPR or its Affiliates to any third party shall expressly provide that (a) the CPS may not be used (either by the third party or its customers) outside the Field, and (b) ABI shall be a third party beneficiary of such provision.

3. Royalty.

3.1 Units Purchased From ABI. Excepting only as is otherwise specified in this Agreement, with respect to units of the Durables and Disposables which RPR purchases from ABI pursuant to the Supply Agreement, no royalty shall be payable, so long as RPR pays the purchase price as specified in the Supply Agreement. Notwithstanding the foregoing, if additional patent rights result from the Research and Development Collaboration Agreement, some royalty might be payable in accordance with the terms of said Research and Development Collaboration Agreement.

3.2 Units Not Purchased From ABI. With respect to any units of the Durables or the Disposables which RPR acquires from a party other than ABI (other than upon expiration of the Supply Agreement with respect to the Licensed Product), if RPR acquires said units at a price less than the price otherwise payable by RPR under t he Supply Agreement, then RPR shall pay to ABI an earned royalty equal to * percent * of the then current purchase price which is then applicable for said units under the Supply Agreement, so long as and to the extent that said royalty does not cause the aggregate of the price paid by RPR to acquire the units, plus the royalty payable to ABI, plus the ABI Royalties Payable thereon to exceed the price otherwise payable by RPR under the Supply Agreement. If the Supply Agreement is no longer in effect with respect to a particular Licensed Product (other than upon expiration of the Supply Agreement with respect to such Licensed Product), then the last price applicable under the Supply Agreement shall be used for purposes of calculating the * royalty pursuant to this Section 3.2.

3.2.1 Royalty Term. Notwithstanding any contrary section of this agreement relating to the term of RPR's royalty obligation to ABI, RPR's royalty obligation to ABI with respect to all CPS or Licensed Product manufactured, used or sold by RPR or its Affiliates shall be * of the most recent purchase price of said Licensed Product and shall extend until the later of (i) the last to expire of the valid granted patents within the ABI Patent Rights covering said CPS or Licensed Product, or any component or process thereof, if a patent within the ABI Patent Rights is granted, or (ii) ten years from the first commercial sale of said CPS or Licensed Product. In the situation of subsection 3.2.1 (ii), RPR's royalty obligation shall also include an continuing obligation of * for years ten through twenty from the commercial sale of said Licensed Product or other CPS manufactured using ABI Confidential Know-How.

3.2.2 For the avoidance of doubt, the provisions of this section 3.2 are intended to be applicable only in the situations where RPR is permitted to manufacture pursuant to the Supply Agreement.

3.3 Royalties to ABI Licensors. ABI shall be solely responsible for any payments due its licensors arising out of the manufacture, sale or use by RPR or its Affiliates or their customers of Licensed Product. However, the parties acknowledge that said payments are included in calculating the purchase price to be paid by RPR pursuant to the Supply Agreement.

4. Commercialization Effort.

4.1 RPR Obligations.

(a) RPR acknowledges that the exclusive nature of this Agreement obligates RPR to develop and incorporate diligently the ABI Technology and CPS devices into

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commercial Lymphoid Cell Therapy uses on a global basis, and includes the obligation to maximize, over time, the commercial opportunities for ABI revenues from the sale of CPS devices for Lymphoid Cell Applications in a manner which does not adversely impact the RPR Business interests in cell therapy. This diligence obligation places certain restrictions on RPR as regards implementing competing automated cell expansion technologies to the extent that such implementation would injure the interests of ABI; however, this restriction is not intended to injure the cell therapy business interests of RPR. Accordingly, notwithstanding anything which might be construed inconsistently in the other subsections of Section 4 of this Agreement, RPR agrees to maintain reasonable business awareness of market opportunities for the use of the CPS for Lymphoid Cell Applications, and RPR agrees to exercise reasonable business judgment and to respond diligently with good business sense to market demands and opportuniites for the use of the CPS for Lymphoid Cell Applications.

(b) Pursuant to subsection (a) above, RPR shall use commercially reasonable, diligent and good faith efforts to exploit the License by obtaining the necessary Government Approvals for using and marketing Licensed Product within the Field, and to develop and service the market demand therefor, in the Major Pharmaceutical Markets. Said reasonable diligence shall be at least equal to the level of efforts that RPR devotes to the incorporation into the RPR Business of its other process improvements of similar market value and therapeutic status. It is understood by the parties that RPR's obligations pursuant to this Section 4.1 shall require it, upon exercise of the Third Option, to use commercially reasonable, diligent and good faith efforts to begin developing the Automated CPS for use in the applications which are the then primary targets for RPR's ex vivo cell therapy business. Such targets are currently TIL therapy and PBMC therapy. RPR shall be obligated, from the the Activation Date, to conduct diligently reasonable pre-clinical bioequivalency studies to support supplemental regulatory filings to transition the Grandfathered Competing Product Applications from the use of the "bag-method" to the use of the Automated CPS.

4.1.1 Notwithstanding anything contained in this Section 4 to the contrary, however, RPR shall not be obligated to use, market or sell Licensed Product in a given country for a Grandfathered Competing Product Application during the * following the date all necessary approvals have been obtained for the use of such Grandfathered Competing Product Application in that country, plus such longer time period as it may be financially or technically infeasible to reasonably phase out a Competing Product in favor of Licensed Product used for the Grandfathered Competing Product Application. In the event that said infeasibility necessitates more than said * for a transition to Licensed Product from a Competing Product for a Grandfathered Competing Product Application, then the parties shall negotiate in good faith to determine means to avoid injury to Aastrom's business interests unless the delay was for causes beyond the reasonable control of RPR.

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4.1.2 By way of clarification of RPR's obligations pursuant to this Section 4.1, ABI acknowledges that RPR shall have sole discretion in determining the manner in which a Licensed Product will be exploited in the countries within a particular Major Pharmaceutical Market, as well as the order of the countries within the Major Pharmaceutical Markets in which a particular Licensed Product will be introduced.

4.1.3 On an annual basis, RPR shall prepare and deliver to ABI a report briefly describing RPR's plans for the development and commercialization of Licensed Product (each such plan being referred to herein as a "Development Plan"). It is understood by the parties that Development Plans will not be static plans, but will necessarily evolve over time as technology and market conditions change. After receipt of a Development Plan, ABI may request that representatives of RPR meet with representatives of ABI to discuss such Development Plan. At that time, ABI may propose additional applications for Licensed Product that ABI may wish to include in the Development Plan, which proposals RPR will consider in good faith.

4.2 Use of Licensed Product in Other Venues. As long as RPR and/or its Affiliates is/are diligently developing and servicing the market for a specific therapy within an Application through the ex vivo cell therapy centers, RPR's obligations pursuant to this Section 4 (the breach of which may result in RPR's loss of exclusive rights) shall not require RPR to market, use and/or sell a Licensed Product for such specific therapy outside of ex vivo cell therapy centers owned or operated by RPR or its Affiliates (such other venues being referred to herein as "Other Venues") until at least * have elapsed from the date of RPR's or RPR's Affiliate's first commercial sale of such specific therapy. After such period, to comply with RPR's diligence obligations, ABI may require RPR to negotiate the marketing, use and/or sale of such Licensed Product in the Other Venues by RPR for such specific therapy on terms and conditions mutually satisfactory to both parties consistent with RPR's exclusive license.

4.3 Unaddressed Application or Market Proposals. If, at any time after the date that is three years after the date of the Third Option Event Notice, ABI develops or receives from a third party a bona fide proposal with respect to (i) the development or use of Licensed Product or a Potential Licensed Product for a specific therapeutic indication within an Unaddressed Application for one or more countries in a Major Pharmaceutical Market (an "Unaddressed Application Proposal"), or (ii) the development or use of a Licensed Product in one or more Major Pharmaceutical Markets (other than the Initial Major Pharmaceutical Markets) for a specific therapeutic indication within an Addressed Application, but only if RPR is in default under Section 4.1.2 with respect to the use or marketing of the Licensed Product for the specific therapeutic indication in such Major Pharmaceutical Market (an "Unaddressed Market Proposal"), then ABI shall present such proposal to RPR.

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4.3.1 Upon receipt of an Unaddressed Application Proposal or an Unaddressed Market Proposal, RPR shall have a period not to exceed ninety days to present ABI with a bona fide plan and commitment (the "Commercialization Plan") to initiate, within an eighteen month period, development of Licensed Product or Potential Licensed Product for such specific therapeutic indication and for such specific country(ies). It is expressly understood that a Commercialization Plan may consist of a commitment by RPR to initiate discussions directly with the applicable third party regarding the feasibility of RPR and the third party collaborating with respect to the development of Licensed Product or Potential Licensed Product, as applicable, for the specific therapeutic indication within the Unaddressed Application or Addressed Application, as applicable, for the specific country(ies). Upon delivery of said Commercialization Plan, RPR shall be deemed to have satisfied its obligations pursuant to Section 4.1 with respect to such Unaddressed Application; provided that RPR thereafter uses commercially reasonable, diligent and good faith efforts to implement such Commercialization Plan in accordance with its terms.

4.3.2 If RPR does not deliver the Commercialization Plan within the time provided by the first sentence of Section 4.3.1, or if RPR notifies ABI in writing of its intention not to deliver the Commercialization Plan within the relevant time period, RPR shall grant back rights (on commercially reasonable terms to be negotiated, including without limitation, whether such grant back shall be on an exclusive or non-exclusive basis) to Aastrom in the specific therapeutic indication in the specific market identified in the Unaddressed Application Proposal or Unaddressed Market Proposal.

4.3.3 Notwithstanding anything contained in this Agreement to the contrary, in no event shall RPR be required, pursuant to Section 4.3.2, to grant back any rights with respect to the use of any Licensed Product or Potential Licensed Product for more than one specific therapeutic indication per twelve month period (on a cumulative basis); provided, however, that a grant back which relates solely to a specific therapeutic indication within an Unaddressed Application wherein the third party has Blocking Patent Rights shall not be counted for purposes of the numerical limitation set forth in this Section 4.3.3.

5. RPR's Use of Competing Products. If RPR markets, sells or uses commercially a Competing Product for a particular therapeutic indication within a Lymphoid Cell Application (excluding however for the Grandfathered Competing Product Applications to the extent permitted by Section 4.1.1) in a particular country, then the License shall convert to a nonexclusive license for such therapeutic indication within such Lymphoid Cell Application in the relevant country; and, subject to the provisions of Section 6.2, ABI shall be free to pursue any and all other arrangements for the sale and use of Licensed Product (but not any other CPS without first offering it to RPR pursuant to the provisions of Section 6.2) for such therapeutic indication within the Lymphoid Cell Application in the relevant country (but not in any other country or for any other Lymphoid Cell Application).

6. Loss of License Rights.

6.1 RPR's Failure to Adhere to Development Plans or Commercialization Plans.

In the event that RPR shall fail to use commercially reasonable efforts to satisfy its Development Plans or a Commercialization Plans (as they may evolve over time) with respect to a particular Lymphoid Cell Application in a particular Major Pharmaceutical Market, then ABI shall have the right, upon 180 days prior written notice, for that particular Lymphoid Cell Application in that particular Major Pharmaceutical Market, (i) to convert to nonexclusive the License for that particular Lymphoid Cell Application in that particular Major Pharmaceutical Market; and (ii) to terminate the License with respect to all improvements to the applicable Licensed Product developed subsequent to such termination without funding or assistance from RPR, but only with respect to that particular Lymphoid Cell Application in that particular Major Pharmaceutical Market. Upon any such conversion or termination, ABI shall, subject to the provisions of Section 6.2, be entitled to pursue other arrangements for commercially using and selling Licensed Product in that particular Major Pharmaceutical Market and for that particular application (which arrangement may be sales directly by ABI or through licensees or assignees).

6.2 RPR's Right of First Refusal. In exercising its rights pursuant to Sections 5 or 6.1, ABI may not enter into any agreement, arrangement or understanding with a third party with respect to the making, using or selling of Licensed Product or Potential Licensed Product without giving RPR written notice of its intention to do so, along with a summary of all material provisions of the proposed agreements (the "Proposed Other Agreements"). Upon receipt of such notice and agreements, RPR shall have a right of first refusal to enter into a similar agreement with ABI on terms and conditions which are identical to those of the agreement(s) which ABI proposes to enter into with the third party. Such right of first refusal may be exercised by RPR in writing at any time within one month after its receipt of the notice specified in the first sentence of this Section (the "Exercise Period"). In the event RPR does not exercise its right of first refusal on any particular occasion, such right of first refusal shall again become effective in the event that ABI does not enter into the Proposed Other Agreements with the third party within six months after the first to occur of ABI's receipt of RPR's written notification that it will not exercise its right of first refusal or the expiration of the Exercise Period.

6.3 Failure to Commercialize on Grant Back. In the event that ABI and/or the third party shall not use commercially reasonable, diligent and good faith efforts to develop and commercialize License Product in the specific field and market for which rights have been granted back pursuant to Section 4.3.2., then RPR shall have the right, upon 180 days prior written notice, if no cure is made within said 180 days, to terminate the grant back, whereupon the exclusivity of RPR's License with respect to the specific therapeutic indication covered by such grant back shall be restored; provided that RPR, thereafter, exerts reasonable commercial diligence with respect to

such therapeutic indication. RPR shall have third party beneficiary rights to enforce said due diligence obligations.

6.4 Dispute Resolution. If there is any dispute as to whether or not RPR is meeting its commercialization obligations in any particular Major Pharmaceutical Market for any particular application, or if there is any dispute as to whether or not ABI and/or a Third Party are meeting their diligence obligations under any rights granted back pursuant to Section 4.3.2, the parties shall pursue good faith discussions and negotiations in an effort to resolve said dispute for a period of at least ninety (90) days. If such discussions do not resolve the dispute, then either party may require the dispute to be resolved through arbitration as set forth in Section 19 hereof.

7. Regulatory Approvals.

7.1 RPR Responsibility.

7.1.1 From and after the date hereof, RPR and its Affiliates shall be responsible for obtaining, and shall pay for all costs necessary to obtain, any and all Government Approvals for the marketing or use of Licensed Product for Lymphoid Cell Applications, as may be required in any country where Licensed Product will be commercially sold or used. Without limiting the generality of the foregoing, RPR and its Affiliates shall fund all clinical trials and shall pay for all applications and license fees required of any government authority in furtherance of its obligation pursuant to the preceding sentence. RPR shall prepare a plan for obtaining required Government Approvals (the "Regulatory Approval Plan"), which shall be updated on a periodic basis as needed, and RPR shall furnish to ABI a copy of the Regulatory Approval Plan, together with the updates. From time to time, RPR may confer with ABI with respect to the implementation of the Regulatory Approval Plan. ABI shall cooperate with and assist RPR with respect to said Government Approval matters, all at the expense of RPR.

7.1.2 All Government Approvals obtained for Licensed Product or a Potential Licensed Product for Lymphoid Cell Applications shall be in the name of RPR and/or its Affiliates and shall be owned by RPR and/or its Affiliates, excepting only to the extent that the applicable governmental authorities require otherwise. In the event that the applicable governmental authorities require that a particular Government Approval be in the name of ABI, ABI shall assign its interest in and to such Governmental Approval to RPR and/or its Affiliates as such interest relates to the Field. RPR shall have the responsibility to file all required reports and to maintain the continued effectiveness for all Government Approvals.

7.1.3 RPR and ABI acknowledge and understand that in addition to, and perhaps simultaneously with, RPR's efforts to obtain Government Approvals for Licensed Product for Lymphoid Cell Applications, ABI (or its licensee) will be pursuing efforts

to obtain regulatory approvals for the Automated CPS for stem cell applications and for other applications outside the Field. In order to avoid conflicting efforts for obtaining regulatory approvals for different applications of the Automated CPS, both RPR and ABI shall use reasonable efforts to cooperate and coordinate with each other relative to pursuing efforts for obtaining regulatory approvals in an effort not to impact adversely the other party's regulatory approval plan for the respective products or applications. Notwithstanding anything contained in this Section 7.1.3 to the contrary, however, neither party shall be required to take any action, or omit from taking any action, in connection with any regulatory approval to the extent that such action or omission would result in additional cost to, or otherwise adversely affect, such party or its Affiliates or their respective customers.

7.2 Transfers. In the event of any termination of this Agreement in accordance with its terms, or in the event the License converts to a nonexclusive license with respect to a particular Lymphoid Cell Application in a particular Major Pharmaceutical Market, then ABI shall be entitled to utilize all data which relates primarily to the safety of the Automated CPS (which shall expressly exclude, among other things, any efficacy data or proprietary process data) which has previously been used by RPR to obtain and maintain the Government Approvals for such Lymphoid Cell Application, in order to assist ABI in obtaining any Government Approvals to enable ABI to commercially make, use or sell Licensed Product for such Lymphoid Cell Application in such Major Pharmaceutical Market.

8. Milestone Payment. RPR shall pay to ABI a milestone payment in the amount of * within ten days after the earlier to occur of (i) all necessary Government Approvals are obtained by RPR or its Affiliates or sublicensees for the first Lymphoid Cell Application which uses Licensed Product in any country in a Major Pharmaceutical Market, or (ii) the first commercial revenues (excluding revenues from clinical trials being conducted to obtain Governmental Approvals) are received by RPR or its Affiliates or sublicensees for the first Lymphoid Cell Applications therapy which uses Licensed Product.

9. Patent Prosecution and Maintenance by ABI. Subject to the requirements, limitations and conditions set forth in this Agreement, ABI shall direct and control (i) the preparation, filing and prosecution of the United States and foreign patent applications for the ABI Patent Rights (including any interferences and foreign oppositions) and (ii) the maintenance of the patents issuing therefrom. RPR shall have full rights of consultation with ABI and the patent attorney selected by ABI in all matters related to the ABI Patent Rights applicable to Lymphoid Cell Applications. ABI shall use reasonable diligent efforts to implement all reasonable requests made by RPR with regard to the preparation, filing, prosecution and/or maintenance of the patent applications and/or patents within the ABI Patent Rights. With respect to the costs for patent matters which benefit Licensed Product or Potential Licensed Products, RPR shall pay 50% of said costs, including attorneys' fees, governmental fees, and all other applicable costs. RPR's obligation under this Section 9 shall apply with respect

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to costs which accrue from and after the effective date of the Governance Agreement between the parties (i.e., September 15, 1995).

9.1 Standby Rights of RPR. If ABI elects not to pursue any particular action to obtain or maintain particular Patent Rights which specifically describe in the specification thereof an application in the Field, then ABI shall promptly notify RPR of such non-election in good time in respect of patent filing, prosecution and maintenance deadlines. Upon receipt of such notification, or in the event that ABI otherwise fails to promptly pursue any particular action to obtain or maintain particular Patent Rights useful in the Field, RPR shall be entitled to undertake such action in its own name or in the name of ABI (or its licensor), at the expense of RPR. In the event RPR elects to undertake such action, ABI shall have no further rights under the patent rights in question and will grant to RPR all of ABI's rights and interest therein, and all necessary authority to so file, prosecute and maintain such patent application or patent, with the provision that RPR shall execute a document granting back to ABI license rights in such patent application or patent, on a royalty free basis, for use outside the Field.

9.2 Improvements. Any improvements to the ABI Patent Rights, including any new inventions, conceived, developed or reduced to practice solely by ABI prior to the Activation Date shall be owned by ABI, but shall be deemed to be part of the ABI Owned Patent Rights which are subject to the License. Any improvements to the ABI Patent Rights, including any new inventions, conceived and developed during the term of the Research and Development Collaboration Agreement shall be governed by the terms and conditions of the Research and Development Collaboration Agreement to be negotiated by the parties during the First Option Period, the material terms of which are attached to the Governance Agreement as Exhibit C.

9.3 Intellectual Property Right Disclaimers. ABI shall not disclaim any intellectual property right or abandon any application for any intellectual property right relating to the CPS for use in the Field without allowing RPR the opportunity to exercise its rights under Section 9.1.

9.4 Patent Term Restoration and Other Extensions of Patent Life. ABI shall keep RPR informed of the issuance of each U.S. patent and foreign patent within ABI Patent Rights, giving the date of issuance and patent numbers, and each notice pertaining to any patent included within ABI Patent Rights which it receives as patent owner pursuant to the Drug Price Competition and Patent Term Restoration Act of 1984 or any equivalent foreign laws, including notices pursuant to sections 101 or 103 of said Act from persons who have filed an abbreviated NDA ("ANDA"), and also, any other notices relating to any administrative or otherwise extensions of patent life. All such notices shall be given promptly, but in any case within 10 days of each such patent's date of issue or receipt of each such notice under such Act or equivalent, whichever is applicable. The parties shall cooperate in attaining any

such permitted extensions of patent life.

10. Infringement.

10.1 RPR Prosecution Against Third Party Infringers. In the event a party to this Agreement acquires information that a third party is infringing one or more of the ABI Patent Rights, the party acquiring such information shall promptly notify the other party in writing of such infringement. Subject to the provisions hereof, RPR shall have the right initially to prosecute at its discretion any and all infringements of any ABI Patent Rights to the extent that such infringement relates to Lymphoid Cell Applications and to defend all charges of infringement arising with respect to Licensed Products and/or Potential Licensed Products, and to enter all settlements, judgments or other arrangements respecting the same, all at its own expense or liability, subject to the terms of this Section 10. Prior to initiating any infringement proceedings, RPR shall confer and consult with ABI with respect to the potential impact of such infringement proceedings on ABI's other Patent Rights and, in the event that ABI shall inform RPR in good faith that such infringement proceedings are likely to have a material adverse effect on ABI, RPR shall not institute such proceedings unless the subject infringement is having or is likely to have a material adverse effect on the competitive position of the ex vivo cell therapy centers owned or operated by RPR and its Affiliates or on RPR's sales of Licensed Product and/or Potential Licensed Products. ABI shall permit any infringement proceedings to be brought in its name if required by law, and RPR shall hold ABI harmless from any costs, expenses or liability respecting all such infringements or charges of infringement, including attorneys' fees. With respect to any infringement proceeding brought by RPR, ABI agrees to be joined as a party plaintiff if permitted by law and if RPR so requests and to give RPR reasonable assistance and authority to file and prosecute the suit.

10.2 Costs. The expenses of suits that RPR elects to bring, including any expenses of ABI incurred in conjunction with the prosecution of such suits or the settlement thereof, shall be paid for entirely by RPR, and RPR shall hold ABI free, clear and harmless from and against any and all costs of such litigation, including attorneys' fees. Monetary recoveries from litigation pursuant to Section 10.1 shall be apportioned as follows: RPR has the right to first reimburse itself for all out-of-pocket costs and expenses of every kind and character, including reasonable attorneys' fees, involved in the litigation or settlement of such suit from any sums recovered in such suit or in settlement. If, after such reimbursement, any funds shall remain from said recovery, such funds shall be allocated equitably between the parties. It is agreed by the parties that their relative financial support of the legal expenses of bringing the infringement action shall be one of the material factors in making such equitable allocation.

10.3 Failure of RPR to Prosecute Infringer. As regards the first discovered infringer of an ABI Patent Right: if RPR does not bring suit against said infringer

pursuant to Section 10.1, or has not commenced negotiations with said infringer for discontinuance of said infringement, as herein provided, within one hundred eighty (180) days after receipt of notice (pursuant to Section 10.1), ABI shall have the right, but shall not be obligated, to bring suit for such infringement and to join RPR as a party plaintiff or to use RPR's name if required by law, in which event ABI shall hold RPR free, clear and harmless from and against any and all costs and expenses of such litigation, including attorneys' fees. If RPR has commenced negotiations with an alleged infringer of the patent for discontinuance of such infringement within such 180-day period, RPR shall have an additional one hundred eighty (180) days from the termination of such initial 180-day period to conclude its negotiations before ABI could bring suit for such infringement.

10.4 RPR's Retained Rights to Prosecute Infringer. RPR shall retain its right to initiate patent infringement litigation respecting a second and subsequent infringer of an ABI Patent Right which is already the subject of a pending patent infringement litigation by RPR if RPR places such infringer(s) on proper legal notice that such infringer's infringing activities shall be addressed in a legal action initiated subsequent to the resolution of the pending litigation.

10.5 ABI Recovery. In the event ABI brings suit pursuant to Section 10.3, ABI shall have the right to reimburse itself out of any sums recovered in such suit or settlement thereof for all out-of-pocket costs and expenses of every kind and character, including reasonable attorneys' fees, necessarily involved in the prosecution or settlement of such suit, and if after such reimbursement, any funds shall remain from said recovery, and if said recovery was in part for RPR's lost profits from Licensed Product, then such funds shall be allocated equitably between the parties. It is agreed by the parties that their relative financial support of the legal expenses of bringing the infringement action shall be one of the material factors in making such equitable allocation.

10.6 Selection of Legal Counsel. Each party shall always have the right to be represented by counsel of its own selection in any suit for infringement of the ABI Patent Rights instituted by the other party under the terms hereof. The expense of such counsel shall be borne by the party retaining such counsel.

10.7 Cooperation by ABI. ABI agrees to cooperate fully with RPR at the request and expense of RPR, including by giving testimony and producing documents lawfully requested in the course of a suit prosecuted by RPR for infringement of the ABI Patent Rights and shall endeavor to cause the employees of ABI, its Affiliates, and sublicensees, as appropriate, to cooperate with RPR.

10.8 Approval of Settlement. Neither party shall, without the prior written consent of the other party, compromise or settle any litigation described in Sections 10.1 or 10.3 if such compromise or settlement imposes any obligations or restrictions on the other party regarding the use of the Patent Rights which were the

subject of the infringement action.

11. Equitable Adjustment of Transfer Price. In the event that RPR and/or its Affiliates shall be required to pay any royalties as a result of any settlement agreed to by ABI or as a result of any judgment in which it is determined that Licensed Product does infringe a third party's Patent Rights, then the parties shall negotiate in good faith to determine an equitable adjustment of the transfer price or future royalties payable by RPR and/or its Affiliates to ABI with respect to sales of Licensed Product pursuant to the Supply Agreement. Furthermore, on a Licensed Product-by-Licensed Product basis, and on a country-by-country basis, RPR may offset one-half of any reasonable out-of-pocket expenses incurred in defending any infringement proceedings for the applicable Licensed Product in the applicable country relating to the ABI Patent Rights from future payments payable to ABI under the Supply Agreement with respect to such Licensed Product used or sold in such country; provided, however, in no event may such offset result in ABI receiving payments which are less than the sum of (i) the costs incurred directly by ABI in manufacturing such Licensed Product, (ii) a 35% gross margin and (iii) the royalties which ABI is obligated to pay to third party licensors with respect to the sale of such Licensed Product from ABI to RPR; and provided, further, that the balance of any unused offset will be carried over and applied to future payments due ABI with respect to such Licensed Product.

12. Indemnity.

12.1 RPR Indemnity. RPR shall defend, indemnify and hold harmless ABI and its Affiliates and their agents, directors, officers and employees ("ABI Indemnified Persons") from and against any and all losses, costs, liabilities, damages, fees and expenses, including reasonable attorneys' fees and expenses (collectively, "Liabilities"), to which an ABI Indemnified Person may become subject insofar as the Liabilities arise out of or are alleged or claimed to arise out of (i) the inaccuracy of any representation or warranty of RPR contained herein or in the other Implementing Agreements, (ii) the negligence or willful misconduct of RPR or its employees or agents.

12.2 ABI Indemnity. ABI shall defend, indemnify and hold harmless RPR and its Affiliates and their agents, directors, officers and employees ("RPR Indemnified Persons") from and against any and all Liabilities to which an RPR Indemnified Person may become subject insofar as the Liabilities arise out of or are alleged or claimed to arise out of (i) the inaccuracy of any representation or warranty of ABI contained herein or in the other Implementing Agreements, (ii) the negligence or willful misconduct of ABI or its employees or agents.

12.3 Cooperation. In the event that either party seeks indemnification under this Section 12, it shall inform the other party of a claim as soon as reasonably practical after it receives notice of the claim, shall permit the other party to assume direction

and control of the defense of the claim (including the right to settle the claim solely for monetary consideration which, in the case of ABI, shall not include the right to (i) grant third party(ies) licenses or other rights under the ABI Technology which conflict with the License, (ii) or to otherwise enter into any agreement, arrangement or understanding which would require RPR or its Affiliates or their respective customers to pay any royalties to any third parties), and shall cooperate as requested at the expense of the other party with respect to documented and reasonable out-of-pocket expenses of the cooperating party in the defense of the claim.

13. Representations, Disclaimers and Covenants.

13.1 Authority. ABI and RPR each represents and warrants to the other that (i) it has the authority to enter into and perform this Agreement, and (ii) its execution, delivery and performance of this Agreement and the full performance and enjoyment of the rights of RPR hereunder will not conflict with, breach, or constitute a default under, the terms of any other license, contract or agreement, whether written or oral, to which it is or becomes a party or by which it or its assets is or becomes bound.

13.2 Ownership. ABI further represents and warrants that:

13.2.1 To its knowledge, it is the exclusive owner of the ABI Owned Patent Rights and the exclusive licensee of the ABI In-Licensed Patent Rights, and has the full right to grant the rights and perform the obligations contemplated by this Agreement.

13.2.2 It has no knowledge from which it can be inferred that the ABI Patent Rights are invalid or unenforceable or that their exercise would infringe Patent Rights of third parties.

13.2.3 During the term of this Agreement, (i) ABI will use reasonable best efforts not to encumber or diminish the rights granted to RPR hereunder, including without limitation, by not committing any acts or permitting the occurrence of any omissions which would cause the breach or termination of any agreements between third parties and ABI which extend intellectual property rights to RPR pursuant to the terms of this Agreement (collectively, "ABI Licenses"), and (ii) ABI will promptly provide RPR notice of any such alleged breach.

13.2.4 As of the date hereof, ABI is not in breach of any of its obligations under any of the ABI Licenses.

13.2.5 The inception, development and reduction to practice of the ABI Technology for use in the Field has not been achieved with the aid of any funding from any governmental agency or authority.

13.3 Disclaimer. EXCEPT AS PROVIDED IN THIS SECTION 13, ABI MAKES NO WARRANTIES CONCERNING THE ABI TECHNOLOGY, INCLUDING WITHOUT LIMITATION, ABI MAKES NO EXPRESS OR IMPLIED WARRANTY (i) OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE (ii) THAT ANY LICENSED PRODUCT WILL BE FREE FROM AN INFRINGEMENT ON PATENT RIGHTS OF THIRD PARTIES, (iii) AS TO THE VALIDITY OR SCOPE OF THE ABI PATENT RIGHTS, OR (iv) THAT NO THIRD PARTIES ARE IN ANY WAY INFRINGING THE ABI PATENT RIGHTS.

13.4 Limited Liability. With respect to any claim by one party against another party arising out of the performance or failure to perform under this Agreement, the parties expressly agree that the liability of such party to the other party for such breach shall be limited as specified in this Agreement or as is otherwise limited at law or equity, and in no event shall a party be liable for indirect, incidental or consequential damages or lost profits.

14. Compliance With Laws.

14.1 General. Each party shall, at its expense, comply with all laws, rules and regulations applicable to the performance by it of its obligations under this Agreement. RPR shall register this Agreement with any governmental agency which requires RPR to so register, and RPR shall pay all costs and legal fees in connection therewith.

14.2 Export Controls. This Agreement is made subject to any restrictions concerning the export of products or technical information from the United States of America which may be imposed upon or related to ABI or RPR from time to time by the government of the United States of America. Furthermore, ABI and RPR each agree that it will not export, directly or indirectly, any technical information acquired from the other under this Agreement or any products using such technical information to any country for which the United States government or any agency thereof at the time of export requires an export license or other governmental approval for such export, without first obtaining the written consent to do so from the Department of Commerce or other agency of the United States government when required by an applicable statute or regulation.

14.3 Patent Marking. To the extent relevant under applicable law, RPR shall mark Licensed Product or its container in accordance with the patent marking laws of the country in which Licensed Product is made, used or sold.

15. Publicity. Any news release or other public announcement relating to this Agreement, including any of its terms, or to the performance hereunder, must be approved by both parties, which approval shall not be unreasonably withheld. Once the text or substance of an announcement has been so approved, it may be repeated without further approval. Any disclosure which is required by law may be made

without the prior consent of the other party, although the other party shall be given prompt notice of any such legally required disclosure and an opportunity to comment on the proposed disclosure reasonably in advance to the extent feasible. Further, the disclosing party shall make diligent efforts to limit the nature and scope of any disclosure to the extent reasonably possible and to otherwise prevent the disclosure of the non-disclosing party's Confidential Information. The parties acknowledge that ABI will be obligated to file a copy of this Agreement with the SEC if and when ABI's stock is registered under the Securities Act of 1933, as amended or the Securities and Exchange Act of 1934, as amended, subject to the diligent obligations stated in the preceding sentence. ABI shall be entitled to disclose the substance of this Agreement to ABI's shareholders (and to prospective shareholders to whom ABI's stock is offered for purchase) under the customary confidentiality agreement and subject to the diligence requirements in the second sentence preceding this sentence.

16. Confidentiality.

16.1 ABI and RPR hereby confirm the validity of, and warrant their continued compliance with, the Confidentiality Agreement, which shall continue in effect. Additionally, each of the parties hereby agrees that during the period beginning on the date hereof and ending on the date that is five years after the last to expire or terminate of the Implementing Agreements, it will (i) maintain in confidence all Confidential Information of the other party (including without limitation all Confidential Information received or obtained as a result of either party's performance under any of the Implementing Agreements), (ii) not disclose the other party's Confidential Information without the prior written consent of such party, and (iii) will not use the other party's Confidential Information for any purpose except those permitted by the Implementing Agreements.

16.2 A party shall have the right to disclose the other party's Confidential Information to those of its directors, officers, employees and consultants to whom disclosure is necessary to enable such party's performance under the Implementing Agreements, provided that such persons have undertaken confidentiality obligations at least as strict as those undertaken in this Agreement.

16.3 In fulfilling its obligations under this Section 16, a party shall use the same level of efforts to protect from disclosure the other party's Confidential Information as it uses to protect its own most sensitive Confidential Information, which efforts shall in any event be not less than reasonable efforts.

17. Trademarks and Tradenames. The trademark and tradename of ABI shall be
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placed on each Licensed Product manufactured by ABI, with at least the same prominence as any other trademark or tradename placed on Licensed Product. As long as the License shall not have terminated, RPR shall have the right to use the applicable trademarks and tradenames of ABI in connection with RPR's use and sale

of Licensed Product.

18. Term and Termination.

18.1 Term. Unless terminated sooner in accordance with the provisions set forth herein, including Section 2.9 hereof, this Agreement, and the License, shall commence on the date of this Agreement and terminate simultaneously with any termination of the Supply Agreement. Provided however, if the Supply Agreement or this Agreement is terminated due to a material default thereunder or hereunder by ABI or due to the bankruptcy or insolvency of ABI, then the License shall continue for the purposes as specified in Section 2.1, subject to RPR paying the royalty as specified in Section 3.2 for so long as any ABI Patent Rights remain in effect.

18.2 Termination Upon Default.

18.2.1 In the event of a material default hereunder by a party ("Defaulting Party"), the other party ("Non-Defaulting Party") may give the Defaulting Party written notice of the default and elect to terminate this Agreement sixty (60) days after the Defaulting Party receives the notice if, within said time period, the Defaulting Party fails to resolve the default by (i) curing the default or beginning the cure of the default and diligently completing the cure of the default thereafter even if after the end of the aforementioned sixty (60) day time period, (ii) providing a written explanation reasonably satisfactory to the Non-Defaulting Party that a default has not occurred, or (iii) entering into a written agreement with the Non-Defaulting Party for the cure or other resolution of the default. Upon failure of the Defaulting Party to resolve the default as so required, the Non-Defaulting Party may terminate this Agreement by giving written notice to the Defaulting Party, said termination to be effective upon the date specified in the notice. Any dispute arising hereunder shall be resolved by binding arbitration in accordance with provisions of Section 19 hereof. If any termination relates to breaches which are limited to a particular Licensed Product and/or Major Pharmaceutical Market, then any termination by ABI shall apply only with respect to that Licensed Product(s) and/or that Major Pharmaceutical Market(s). If it is determined that RPR or its Affiliates intentionally used commercially a Licensed Product outside the Field, then ABI may terminate this Agreement without RPR having any right to cure.

18.2.2 The rights granted to the Non-Defaulting Party pursuant to Subsection 18.2.1 shall be in addition to and not in substitution for any other remedies that may be available to such party. Except as otherwise expressly stated herein, termination shall not relieve the Defaulting Party from liability and damages to the other party for breach of this Agreement.

18.3 Termination Upon Bankruptcy Event. This Agreement may be terminated by a party upon written notice to the other in the event that (i) the other party shall make an assignment for the benefit of its creditors, file a petition in bankruptcy,

petition or apply to any tribunal for the appointment of a custodian, receiver or any trustee for it or a substantial part of its assets, or shall commence any proceeding under any bankruptcy, reorganization, arrangement, readjustment of debt, dissolution or liquidation law or statute of any jurisdiction, whether now or hereafter in effect; or (ii) if there shall have been filed against the other party any such bona fide petition or application, or any such proceeding shall have been commenced against it, in which an order for relief is entered or which remains undismissed for a period of 90 days or more; or (iii) if the other party by any act or omission shall indicate its consent to, approval of or acquiescence in any such petition, application, or proceeding or order for relief or the appointment of a custodian, receiver or trustee for it or any substantial part of its assets, or shall suffer any such custodianship, receivership or trusteeship to continue undischarged for a period of 90 days or more (hereinafter, an "Insolvency Event"). Termination shall be effective upon the date specified in such notice. All rights and licenses granted under or pursuant to any section of this Agreement are, and shall otherwise be deemed to be, for purposes of Section 36(n) of the Bankruptcy Code, licenses to "intellectual property" as defined under Section 101(52) of the Bankruptcy Code. The parties agree that RPR, as a licensee or sublicensee, as applicable, of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code. The parties further agree that, if an Insolvency Event shall occur with respect to ABI, RPR shall be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property, and the same, if not already in its possession, shall be promptly delivered to RPR upon any such occurrence.

18.4 Voluntary Termination. RPR may voluntarily terminate this Agreement upon one hundred eighty (180) days' prior written notice to ABI at any time with respect to any country(ies).

18.5 Cessation of RPR Business. If RPR ceases to conduct the RPR Business, and if RPR does not assign or sublicense its rights under this Agreement in accordance with Section 2.5, then ABI may terminate this Agreement.

18.6 Rights Upon Termination. Notwithstanding any other provision of this Agreement, upon any termination of this Agreement in its entirety, the License shall terminate (subject to the rights of RPR pursuant to the second sentence of Section 18.1). Except as permitted by Section 18.7, upon such termination, RPR shall have no further right to develop, manufacture or market Licensed Product. Subject to the provisions of Section 18.7, upon any termination of this Agreement in its entirety, RPR shall promptly return all materials, samples, documents, information, and other materials which embody or disclose the ABI Technology. Any termination of this Agreement shall not relieve either party from any obligations accrued to the date of such termination. The parties' obligations pursuant to Sections 12 and 16 shall survive any termination of this Agreement. All of the foregoing shall relate only to Licensed Product and/or country(ies) and/or applications to which the termination relates.

Upon termination of this Agreement (except for a termination due to a material default by ABI under this Agreement or the Supply Agreement, or due to the bankrupcy or insolvency of ABI), RPR shall not have the right to use any ABI valid and unexpired ABI Patent Rights or ABI Confidential Know-How to manufacture any CPS.

18.7 Licensed Product Purchased. With respect to all Licensed Product purchased by RPR prior to any early termination of this Agreement, RPR and its Affiliates and sublicensees and their customers shall have the continuing right to use and sell (but not to make) Licensed Product for Lymphoid Cell Applications.

19. Arbitration. Except as set forth in subparagraph 19.1 below, any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be settled by binding arbitration in accordance with the Arbitration Agreement. If the parties cannot timely execute the Arbitration Agreement, the dispute shall be resolved in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("AAA").

19.1 Equitable Court Remedies. Each party recognizes and acknowledges that a breach by the other of any of its covenants, agreements or undertakings hereunder relating to confidentiality and non-use of Confidential Information and ownership and use of intellectual property will cause irreparable damage which cannot be readily remedied in damages and in action at law, and may, in addition thereto, constitute an infringement of a party's proprietary rights, thereby entitling such party to equitable remedies and costs. Accordingly, notwithstanding the provisions of this Section 19, each party reserves the right (and the other party agrees not to contest such right) to seek injunctive relief and other equitable remedies in a court of competent jurisdiction, instead of arbitration, with respect to the enforcement by each party of such rights.

20. General Provisions.

20.1 Independent Contractors. The relationship between ABI and RPR is that of independent contractors. ABI and RPR are not joint venturers, partners, principal and agent, master and servant, employer or employee, and have no other relationship other than independent contracting parties. ABI shall have no power to bind or obligate RPR in any manner, other than as is expressly set forth in this Agreement. Likewise RPR shall have no power to bind or obligate ABI in any manner other than as is expressly set forth in this Agreement.

20.2 Force Majeure. Both parties to this Agreement shall be excused from the performance of their obligations under this Agreement if such performance is prevented by force majeure and the non-performing party promptly provides notice of the prevention to the other party. Such excuse shall be continued so long as the condition constituting force majeure continues and the non-performing party takes

reasonable efforts to remove the condition. For purposes of this Agreement, force majeure shall include conditions which are beyond the reasonable control of a party and which could not have been avoided by the exercise of reasonable diligence, including without limitation, an act of God, voluntary or involuntary compliance with any regulation, law or order of any government, war, civil commotion, strike or other labor disturbance, epidemic, failure or default of public utilities or common carriers, destruction of production facilities or materials by fire, earthquake, storm or like catastrophe. Provided however, payments of any monies due and owing hereunder shall not be delayed by the payor because of a force majeure affecting the payor.

20.3 Consents Not Unreasonably Withheld. Whenever provision is made in this Agreement for either party to secure the consent or approval of the other, that consent or approval shall not unreasonably be withheld or delayed. Whenever in this Agreement provisions are made for one party to object to or disapprove a matter, such objection or disapproval shall not unreasonably be exercised.

20.4 Assignment. Neither this Agreement nor any rights granted hereunder may be assigned or transferred by either party except with the prior written consent of the other party, which consent shall not be unreasonably withheld, except to an Affiliate(s) of the party or to a successor-in-interest of substantially all of the party's assets. Upon any such permitted assignment, both the assignee and the assignor shall be liable for the performance of the assigning party's obligations under this Agreement. Any such purported assignment for which consent is required and is not obtained shall be void.

20.5 Binding Upon Successors and Assigns. Subject to the limitations on assignment herein, this Agreement shall be binding upon and inure to the benefit of any successors in interest and assigns of ABI and RPR. Any such successor or assignee of a party's interest shall expressly assume in writing the performance of all the terms and conditions of this Agreement to be performed by such party.

20.6 Entire Agreement; Modification. This Agreement, the other Implementing Agreements and the Confidentiality Agreement set forth the entire agreement and understanding between the parties as to the subject matter set forth in this Agreement. There shall be no amendments or modifications to this Agreement, except by a written document which is signed by both parties.

20.7 Governing Law. This Agreement shall be construed and enforced in accordance with the internal laws of the Commonwealth of Pennsylvania.

20.8 Headings. The headings for each article and section in this Agreement have been inserted for convenience of reference only and are not intended to limit or expand on the meaning of the language contained in the particular article or section.

20.9 Severability. If any one or more of the provisions of this Agreement is held to be invalid or unenforceable by the arbitration proceedings specified in Section 17 from which no appeal can be or is taken, the provision shall be considered severed from this Agreement and shall not serve to invalidate the remaining provisions thereof, so long as the essential benefits of this Agreement will still be realized. The parties shall make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

20.10 No Waiver. Any delay in enforcing a party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such party's rights to the future enforcement of its rights under this Agreement, excepting only as to an express written and signed waiver as to a particular matter for a particular period of time.

20.11 Name. Whenever there has been an assignment by RPR as permitted by this Agreement, the term "RPR" as used in this Agreement shall also include and refer to, if appropriate, such assignee.

20.12 Export Controls. This Agreement is made subject to any restrictions concerning the export of products or technical information from the United States of America which may be imposed upon or related to ABI or RPR from time to time by the government of the United States of America. Furthermore, ABI and RPR each agree that it will not export, directly or indirectly, any technical information acquired form the other under this Agreement or any products using such technical information to any country for which the United States government or any agency thereof at the time of export requires an export license or other governmental approval, without first obtaining the written consent to do so from the Department of Commerce or other agency of the United States government when required by an applicable statute or regulation.

20.13 No Implied Licenses. No licenses by one party to another are granted under this Agreement by implication or estoppel.

20.14 Notices. Any notices required by this Agreement shall be in writing, shall specifically refer to this Agreement and shall be sent by (i) hand delivery, (ii) registered mail, return receipt requested, (iii) overnight delivery service, or (iv) telefacsimile transmission, and shall be sent or delivered to the respective addresses and telefacsimile numbers set forth below, unless subsequently changed by written notice to the other party:

For ABI: AASTROM Biosciences, Inc.
P.O. Box 376
Ann Arbor, MI 48106
Attention: President
Fax: (313) 665-0485

With copy to: T. Knox Bell
Gray Cary Ware & Freidenrich
401 B Street, Suite 1700
San Diego, CA 92101
Fax: (619) 236-1048

For RPR: RPR GENCELL
Cell and Gene Therapy Division
Rhone-Poulenc Rorer Inc.
500 Arcola Road
P.O. Box 1200
Collegeville, PA 19426-0107
Attention: President and General Counsel
Fax: (610) 454-8984 and 454-3808

Notices shall be deemed delivered upon receipt at the respective party's address or telefacsimile number as set forth above.

20.15 Compliance with Laws. Each party shall perform its obligations and conduct its affairs with respect to this Agreement in compliance with all applicable laws and governmental regulations. If any permit, authorization, registration, license or other governmental approval is required in connection with the performance of this Agreement, the same shall be obtained by the party or parties as required.

20.16 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which shall constitute one and the same agreement. Signatures for this Agreement may be transmitted by telefacsimile as binding signatures of the parties.

IN WITNESS WHEREOF, the parties have executed this Agreement by their duly authorized representatives as of the date set forth above.

AASTROM Biosciences, Inc.

By:/s/ R. Douglas Armstrong
Print Name: R. Douglas Armstrong, Ph.D.
Title: President and CEO

Rhone-Poulenc Rorer Inc.

By: /s/ Thierry Soursac
Print Name: Thierry Soursac
Title: Senior V.P.,
Rhone-Poulenc Rorer Inc.
General Manager, RPR
Gencell

EXHIBIT A
ABI OWNED PATENT RIGHTS

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U. S. Application, Ser. # _____, Atty. Ref #P03 33674, P03 33754-757 Apparatus and Method for Maintaining and Growing Biological Cells
Armstrong et al.
Filed: 6/6/95

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This Application is five separate applications, drawing on the same text, but with different claims tied to the Cell Production System and its individual components.

EXHIBIT A-1
PATENT APPLICATIONS RELATED TO GENE LOADER

Patent applications filed to date which are related to the Aastrom Gene Loader are identified as follows:

1. U.S. Application #08/134,105
   Filed: 10/8/93
   Entitled: Methods of Increasing Rates of Infection by Directing Motion of Vectors

2. U.S. Application #08/353,531
   Filed: 12/9/94
   Entitled: Methods, Compositions and Apparatus for Cell Transfection

3. U.S. Application (Continuation of #08/134,105)
   Filed: 6/7/95
   Entitled: Methods of Increasing Rates of Infection by Directing Motion of Vectors

As specified in the definition of cCPS, the Aastrom Gene Loader is not treated as a CPS.

EXHIBIT B
ABI IN-LICENSED PATENT RIGHTS

A. U.S. PATENTS AND APPLICATIONS

1. U.S. APPLICATION, SER. NO. 07/845,969, ATTY. REF. NO. 2363-043-55

Methods, Compositions and Devices for Maintaining and Growing Human Stem and/or Hematopoietic Cells
FILED: 3/4/92; (NOW ABANDONED) continuation filed 1/6/94 (SER. NO.08/178,433)
NOTICE OF ALLOWANCE: 4/17/95

2. U.S. PATENT NO. 4,839,292; JOSEPH G. CREMONESE

Cell Culture Flask Utilizing a Membrane Barrier
ISSUED: 6/13/89

3. U.S. PATENT NO. 5,437,994

Method and Compositions for the Ex Vivo Replication of Stem Cells, for the Optimization of Hematopoietic Progenitor Cell Cultures, and for Increasing the Metabolism, GM-CSF Secretion and/or IL-6 Secretion of Human Stromal Cells
FILED: 7/29/91; Continuation filed 12/10/93, (Ser. No. 08/164,779), and amendment on 8/1/94
PATENT ISSUED: 8/1/95

4. U.S. PATENT NO. 5,399,493

Method for Human Gene Therapy, Including Methods and Compositions for the Ex Vivo Replication and Stable Genetic Transformation of Human Stem Cells, for the Optimization of Human Hematopoietic Progenitor Cell Cultures and Stable Genetic Transformation Thereof, and for Increasing the Metabolism, GM-CSF Secretion and/or IL-6 Secretion of Human Stromal Cells.
PATENT ISSUED: 3/21/95

5. U.S. APP., SER. NO. 07/815,513, ATTY. REF. NO. 2363-036-55
Methods for Regulating the Specific Lineages of Cells Produced in a Human Hematopoietic Cell Culture, Methods for Assaying the Effect of Substances on Lineage-Specific Cell Production, and Cell Compositions Produced by these Cultures
FILED: 1/2/92; continuation filed 11/2/94 (SER. NO. 08/334,011)

B. FOREIGN PATENT FILINGS

1. PCT APP. NO. PCT/US 90/03438 (U.S. APPLICATION NO. 07/366,639)
Attorney Reference No. 2363-22-55a epc

Methods, Compositions and Devices for Growing Cells
FILED: 6/14/90
STATUS: National Stage filed: 12/15/91 - Canada, Japan, EPO
South Korea filed: 2/18/91 (Application No. 700181/91)

2. PCT APP. NO. PCT/US91/09173 (U.S. APP. NOS. 07/628,343, 07/737,024
Attorney reference no. 2363-059-55a pct
Methods for Culturing and Transforming Human Stem Cell-Containing Compositions
FILED: 6/17/91
STATUS: Publication No. WO 9211355 published 6/9/92.
National Stage filed: 6/15-17/93 - Japan, Russia, EPO, S. Korea, Canada, Australia

3. PCT APP. NO. PCT/US93/01803 (U.S. APP. NO. 07/845,969)
Attorney Reference no. 2363-072-55a cip pct
Methods, Compositions and Devices for Maintaining and Growing Human and/or Hematopoietic Cells
FILED: 3/4/93
STATUS: Publication No. WO 9318132 published 9/16/93.
National Stages filed: 9/4/94 - Australia, Canada, EPO, Japan, South Korea and U.S.

EXHIBIT 23.1

CONSENT OF INDEPENDENT ACCOUNTANTS

We consent to the inclusion in this registration statement on Form S-1 Amendment No. 4 (File No. 333-15415) of our report dated August 9, 1996, on our audits of the financial statements of Aastrom Biosciences, Inc. We also consent to the reference to our firm under the caption "Experts."

/s/ COOPERS & LYBRAND L.L.P.

Detroit, Michigan
January 24, 1997

EXHIBIT 23.3

CONSENT OF
OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT
PATENT COUNSEL

We consent to the reference of our firm under the caption "Experts" regarding patents and pending patent applications either owned by or licensed to Aastrom Biosciences, Inc. ("Aastrom") relating to aspects of Aastrom's product and process technology as set forth in the Registration Statement on Form S-1 and related Prospectus of Aastrom, and any amendments thereto, which we have reviewed and approved under the captions "Risk Factors-Uncertainty Regarding Patents and Proprietary Rights" and "Business-Patents and Proprietary Rights", and the other references therein concerning such patents and patent applications.

/s/ OBLON SPIVAK MCCLELLAND
MAIER & NEUSTADT

OBLON SPIVAK MCCLELLAND
MAIER & NEUSTADT

Arlington, Virginia
January 27, 1997