

SECURITIES AND EXCHANGE COMMISSION

FORM 10-Q

Quarterly report pursuant to sections 13 or 15(d)

Filing Date: **2001-05-14** | Period of Report: **2001-03-31**
SEC Accession No. **0000913056-01-500005**

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FILER

AXYS PHARMACEUTICALS INC

CIK: **913056** | IRS No.: **222969941** | State of Incorpor.: **DE** | Fiscal Year End: **1231**
Type: **10-Q** | Act: **34** | File No.: **000-22788** | Film No.: **1633912**
SIC: **2834** Pharmaceutical preparations

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM 10-Q

(Mark One)

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2001 or

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number: 0-22788

Axys Pharmaceuticals, Inc. *(Exact name of registrant as specified in its charter)*

Delaware

(State or other jurisdiction of incorporation or organization)

22-2969941

(IRS Employer Identification Number)

180 Kimball Way

South San Francisco, California 94080

(Address of principal executive offices including zip code)

(650) 829-1000

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file reports), and (2) has been subject to such filing requirements for the past 90 days. YES NO

The number of outstanding shares of the registrant's Common Stock, \$0.001 par value, was 37,528,412 as of April 30, 2001.



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* The financial information contained herein should be read in conjunction with the consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2000, filed with the Securities and Exchange Commission on March 30, 2001.

PART I -- FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

AXYS PHARMACEUTICALS, INC.

CONDENSED BALANCE SHEETS
(In thousands)

	March 31, 2001	December 31, 2000 (1)
	-----	-----
	(unaudited)	
ASSETS		
Current assets:		
Cash and cash equivalents.....	\$ 29,191	\$ 41,247
Marketable investments.....	239	529
Accounts receivable.....	750	--
Prepaid expenses and other current assets.....	3,160	2,890
	-----	-----
Total current assets.....	33,340	44,666
Property and equipment, net.....	11,780	10,983
Investment in equity-method investee.....	42,828	40,367
Other investments.....	15,007	15,007
Notes receivable from employees.....	652	365
Debt issuance costs, net.....	6,299	6,753
Other assets.....	804	555
	-----	-----
Total assets.....	\$ 110,710	\$ 118,696
	=====	=====

LIABILITIES AND STOCKHOLDERS' EQUITY

Current liabilities:			
Accounts payable.....	\$	3,544	\$ 5,406
Accrued compensation.....		1,535	2,154
Other accrued liabilities.....		2,346	2,503
Deferred revenue.....		362	229
Current portion of capital lease and notes.....		1,047	950
		-----	-----
Total current liabilities.....		8,834	11,242
Capital lease obligations, noncurrent.....		2,300	1,889
Subordinated notes.....		26,000	26,000
Other liabilities.....		1,919	--
Stockholders' equity:			
Common stock.....		357,582	347,444
Accumulated other comprehensive loss.....		(512)	(524)
Accumulated deficit.....		(285,413)	(267,355)
		-----	-----
Total stockholders' equity.....		71,657	79,565
		-----	-----
Total liabilities and stockholders' equity....	\$	110,710	\$ 118,696
		=====	=====

(1) The balance sheet at December 31, 2000 has been derived from the audited financial statement at that date but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements.

See accompanying notes.

AXYS PHARMACEUTICALS, INC.

CONDENSED STATEMENTS OF OPERATIONS

(Unaudited)

(In thousands, except per share amounts)

	Three Months Ended	
	March 31,	
	2001	2000
	-----	-----
Collaboration and license revenue.....	\$ 3,070	\$ 1,414
	-----	-----
Operating expenses:		
Research and development.....	8,929	7,858

General and administrative.....	3,242	2,814
Non-cash compensation (income) expense.....	(1,051)	--
Restructuring charge.....	--	(545)
	-----	-----
Total operating expenses.....	11,120	10,127
	-----	-----
Operating loss.....	(8,050)	(8,713)
Interest income.....	531	141
Interest expense.....	(1,474)	(176)
Equity interest in loss of equity-method investee....	(9,059)	--
Other expense.....	(978)	--
	-----	-----
Loss from continuing operations.....	(19,030)	(8,748)
Cumulative effect of change in accounting principle..	972	--
Income from operations of discontinued segments.....	--	256
	-----	-----
Net loss.....	\$ (18,058)	\$ (8,492)
	=====	=====
Basic and diluted net loss per share from		
continuing operations.....	\$ (0.51)	\$ (0.27)
Basic and diluted net income per share from		
cumulative effect.....	0.03	--
Basic and diluted income per share from		
discontinued segments.....	--	0.01
	-----	-----
Basic and diluted net loss per share.....	\$ (0.48)	\$ (0.26)
	=====	=====
Shares used in computing basic and diluted net		
(loss) income per share.....	37,345	32,067
	=====	=====

See accompanying notes.

AXYS PHARMACEUTICALS, INC.

CONDENSED STATEMENTS OF CASH FLOWS

(unaudited)

(In thousands)

Three Months Ended
March 31,

	2001	2000
	-----	-----
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss.....	\$ (18,058)	\$ (8,492)
Adjustments to reconcile net loss to net cash and cash equivalents used in operating activities:		
Non-cash restructuring charge.....	--	(545)
Non-cash compensation income.....	(1,051)	--
Cumulative effect of a change in accounting principle..	(972)	--
Other expense.....	978	--
Interest expense on convertible debt.....	519	--
Depreciation and amortization.....	1,712	1,952
Options and warrants issued to consultants.....	161	--
Equity interest in loss of equity-method investee.....	9,059	--
Forgiveness of note receivable from employees.....	13	191
Changes in assets and liabilities:		
Accounts receivable.....	(750)	(75)
Inventory.....	--	186
Prepaid expenses and other current assets.....	(270)	(716)
Other assets.....	296	16
Accounts payable.....	(1,862)	(2,226)
Accrued compensation.....	(619)	(323)
Other accrued liabilities.....	(156)	(1,147)
Deferred revenue.....	133	(756)
	-----	-----
Net cash and cash equivalents used in operating activities.....	(10,867)	(11,935)
	-----	-----
CASH FLOWS FROM INVESTING ACTIVITIES:		
Available-for-sale securities:		
Maturities.....	202	3,080
Minority interest.....	--	(409)
Transaction costs on disposal of segment.....	--	(1,500)
Net purchase of property and equipment.....	(2,055)	(1,333)
Loan to officer.....	(300)	--
	-----	-----
Net cash and cash equivalents used in investing activities.....	(2,153)	(162)
	-----	-----
CASH FLOWS FROM FINANCING ACTIVITIES:		
Net proceeds from issuance of common stock.....	457	34,273
Proceeds from notes payable and capital lease financing..	703	20,000
Principal payments on notes payable and capital leases...	(196)	(17,269)
	-----	-----
Net cash and cash equivalents provided by financing activities.....	964	37,004
	-----	-----
Net (decrease) increase in cash and cash equivalents.....	(12,056)	24,907
Cash and cash equivalents, beginning of period.....	41,247	23,577
	-----	-----
Cash and cash equivalents, end of period.....	\$ 29,191	\$ 48,484
	=====	=====

AXYS PHARMACEUTICALS, INC.

NOTES TO CONDENSED FINANCIAL STATEMENTS

March 31, 2001

(UNAUDITED)

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The unaudited financial statements included herein have been prepared by Axys Pharmaceuticals, Inc. ("Axys" or the "Company") according to the rules and regulations of the Securities and Exchange Commission. Certain information and footnote disclosures normally included in complete financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. The financial statements reflect, in the opinion of management, all adjustments (which include only normal recurring adjustments) necessary to state fairly the financial position and results of operations as of and for the periods indicated. The results of operations for the three months ended March 31, 2001 are not necessarily indicative of the results to be expected for subsequent quarters or the full fiscal year.

On April 28, and December 22, 2000, respectively, the Company completed the sale of two of its subsidiaries: its combinatorial chemistry business, Axys Advanced Technologies, Inc. ("AAT"), to Discovery Partners International, Inc. (Nasdaq: DPII "DPI") and its pharmacogenomics subsidiary PPGx, Inc. to DNA Sciences, Inc. The Company reclassified operating results previously reported for the three months ended March 31, 2000 to reflect the results of these subsidiaries as discontinued operations, in accordance with Accounting Principles Board Opinion No. 30 (APB 30).

These financial statements should be read in conjunction with the audited financial statements and the notes thereto included in the Company's 2000 Annual Report on Form 10-K filed with the Securities and Exchange Commission.

Reclassifications

Certain prior period amounts have been reclassified to conform to the March 31, 2001 presentations.

Uses of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates, and such differences could be material.

Changes in Accounting Principle

In June 1998, the Financial Accounting Standards Board issued Statement No. 133, *Accounting for Derivative Instruments and Hedging Activities* (FAS 133), which is required to be adopted in years beginning after June 15, 2000. The Statement requires the recognition of all derivative instruments on the balance sheet to be recorded at fair market value. The accounting for changes in the fair value (i.e., gains or losses) of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and further, on the type of hedging relationship. We have not designated

our derivative instruments as hedges, therefore, all changes in the fair value of our derivative instruments are recorded in earnings. The adoption of FAS 133 at January 1, 2001 resulted in the cumulative effect of an accounting change of \$972,000 being recognized in the statement of operations.

Derivative Instruments

At March 31, 2001, the Company had two derivative instruments: (1) A warrant held in connection with the DPI investment; and (2) A stock option plan covering a portion of the Company's investment in DPI, in which the Company has granted certain employees options to acquire common stock in this investment (See Note 2). During the first quarter of 2001 the Company recorded a charge of \$978,000 in connection with the warrant to reflect the change in fair value and a credit of approximately \$1.1 million in connection with the stock option plan to reflect the changes in fair value of these derivative instruments.

2. Investment in Equity-Method Investee

Investment in equity-method investee consists of the Company's investment in DPI as a result of the merger agreement between DPI and the Company for the sale of AAT in April 2000. The Company accounts for its investment in DPI under the equity method of accounting.

At March 31, 2001 the Company owned 7,425,000 shares of DPI common stock, which represented approximately 31% ownership of the outstanding shares of DPI.

The Company adopted a Key Personnel Stock Option Plan, whereby key personnel have been granted options to purchase shares of stock in Axys' affiliated companies. The participants in the plan have the right to purchase up to 5% of the Company's equity holdings in the affiliated companies. As a result of this plan, the financial statements reflect a credit of \$1.1 million related to the change in fair value associated with this plan.

The market value of DPI stock held by Axys as of March 31, 2001 was approximately \$47.3 million.

Summarized statement of operations information of DPI for the three month periods ended March 31, 2001 and 2000 was as follows:

	Three Months Ended	
	March 31,	
	2001	2000
	-----	-----
DOLLARS IN THOUSANDS		
-----	-----	-----
Net sales.....	\$ 9,524	\$ 5,173
Loss from operations.....	(3,455)	(437)
Net loss.....	(2,201)	(1,630)

3. Investment in Akkadix

On March 15, 2001, two third party investors of Akkadix Corporation exercised a contractual option extended to them by the Company to exchange their approximately 2.7 million shares of Akkadix's Series A preferred stock for approximately 2.5 million shares of the Company's common stock. The fair market value of Axys common stock exchanged for Akkadix preferred stock was approximately \$9.0 million on the date of the option exercise.

The conversion of shares will result in an increase in the Company's equity ownership of Akkadix from approximately 31% to 44% (as of March 31, 2001).

Changing conditions in private equity markets during the first quarter forced Akkadix to sharply reduce their operations as the company was unable to secure planned new equity funding. A substantial percentage of their employees were terminated and Akkadix vacated their office/laboratory space. The Company has concluded that the future viability of the Akkadix business is highly uncertain. Accordingly, in conformance with the equity method of accounting, we incurred a non-cash charge of \$9.0 million during the first quarter of 2001, recognizing a permanent impairment in the value of the Company's investment in Akkadix. The company does not anticipate any future benefit from this investment.

4. Comprehensive Loss

Comprehensive loss is comprised of net loss and unrealized holding gains and losses on available-for-sale securities. Components of comprehensive loss are as follows:

	Three Months Ended March 31,	
	----- 2001	2000 -----
Net loss.....	\$ (18,058)	\$ (8,492)
Other comprehensive income (loss).....	12	(1)
	-----	-----
Comprehensive loss.....	\$ (18,046)	\$ (8,493)
	=====	=====

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion contains both historical information and forward-looking statements that involve risks and uncertainties. Forward-looking statements include projections and other statements about events that may occur at some point in the future. The Company's actual results could differ significantly from those described in the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in this section as well as under "Item 1. Business," including, "What Factors Could Cause Our Results To Differ Significantly From Those You Might Expect" and "What Matters Should Stockholders Consider with Respect to the Company?", in the Company's Annual Report on Form 10-K for the year ended December 31, 2000 filed with the Securities and Exchange Commission.

Overview

We are a biopharmaceutical company focused on the discovery, design and development of therapeutic small molecules that address significant markets with major unmet medical needs. We collaborate with large pharmaceutical companies in discovering therapeutics for chronic diseases for which there are large markets. We also selectively focus our own resources on discovering and developing therapeutics for the treatment of various types of cancer and other specialty market therapeutics. We have on-going programs in the treatment of autoimmune, inflammatory diseases, and cancer. Our drug design platform integrates advanced biology, chemistry, biophysics and information technologies to optimize the potency, selectivity and physical properties of new drugs, making the drug discovery process more efficient and productive.

In February 2001, we received a research milestone payment from Merck & Co. for meeting a pre-agreed milestone in the development of a compound being studied for use in the treatment of osteoporosis, a disease that affects an estimated 40 percent of women over the age of 50. The compound selected by Merck is a potent and selective inhibitor of Cathepsin K, a cysteine protease that has been demonstrated to play a key role in bone resorption.

In March 2001, we recorded revenue from a research milestone from Aventis, for successfully completing a pivotal *in vivo* proof-of-concept study which confirmed the mechanism of action for orally administered inhibitors of Cathepsin S, another

human cysteine protease. The collaboration with Aventis is focused on development of Cathepsin S inhibitors for potential applications in treating inflammation and autoimmune disease, including rheumatoid arthritis, asthma, atherosclerosis, COPD and rhinitis.

Also in March 2001, two investors in Akkadix Corporation exercised an option, extended to them by Axys, to exchange their 2.7 million shares of Series A Preferred Stock of Akkadix for approximately 2.5 million shares of Axys common stock. The fair market value of Axys common stock exchanged for Akkadix preferred stock was approximately \$9.0 million. As a result of the exercise of these options, Axys' ownership of Akkadix voting stock increased from 31% to approximately 44%. During the first quarter of 2001, Akkadix sharply reduced their operations because of diminished financial resources. A substantial percentage of their employees were terminated and Akkadix vacated their office/laboratory space. We have concluded that the future viability of the Akkadix business is highly uncertain. Accordingly, in conformance with the equity method of accounting, we incurred a non-cash charge of \$9.0 million during the quarter recognizing a permanent impairment in the value of our investment in Akkadix. The company does not anticipate any future benefit from this investment.

To date, we have not generated any product revenue from our drug discovery programs and we do not expect to generate product revenue for at least several years. As of March 31, 2001, we had an accumulated deficit of \$285 million. We expect that losses will fluctuate from quarter to quarter, that such fluctuations may be substantial, and that results from prior quarters may not be indicative of future operating results. Included in our accumulated deficit at March 31, 2001 was approximately \$147 million of acquired in-process research and development from the acquisitions of Khepri Pharmaceuticals, Inc. in 1995 and Sequana Therapeutics, Inc. ("Sequana") in January 1998. We expect our sources of revenue, if any, for the next several years to consist of payments under corporate partnerships. The process of developing our products will require significant additional research and development, preclinical testing and clinical trials, as well as regulatory approval. These activities, together with our general and administrative expenses are expected to result in significant operating losses for the foreseeable future. We will not receive product revenues or royalties from our collaborative partners before completing clinical trials and successfully commercializing these products.

We are subject to risks common to biopharmaceutical companies, including risks inherent in our research and development efforts and clinical trials, reliance on collaborative partners, enforcement of patent and proprietary rights, the need for future capital, potential competition and uncertainty of regulatory approvals. In order for a product to be commercialized, it will be necessary for us, and in some cases, our collaborators, to conduct preclinical tests and clinical trials to demonstrate the efficacy and safety of our product candidates, obtain regulatory clearances and enter into manufacturing, distribution and marketing arrangements as well as obtain market acceptance. There can be no assurance that we will generate revenues or achieve and sustain profitability in the future.

Results of Operations

Collaboration and Licensing Revenues

Our collaboration and licensing revenues were \$3.1 million for the three months ended March 31, 2001, compared to \$1.4 million for the same period in 2000. The increase was primarily due to milestones earned from corporate collaborations with both Merck and Aventis.

Research and Development

Our research and development expenses were \$8.9 million for the three months ended March 31, 2001, compared to \$7.9 million for the same period in 2000. The overall increase for the first three months of 2001 was primarily due to clinical development expenses incurred in connection with clinical studies for APC 2059.

General and Administrative

Our general and administrative expenses were \$3.2 million for the three months ended March 31, 2001, compared to \$2.8 million for the same period in 2000. The increase was primarily due to upgrading our information systems and network infrastructure.

Non-cash compensation income

We recorded non-cash compensation income of \$1.1 million for the three months ended March 31, 2001, relating to the adoption of FAS 133 in January 2001. We recorded a credit as a result of the decline in fair value of the company's liability under the Key Stock Option Employee Plan. Under this plan, certain employees of Axys have been granted contractual options to purchase shares of our investment of Discovery Partners International, Inc. (DPI).

Interest Income and Interest Expense

Interest income was \$531,000 for the three months ended March 31, 2001, compared to \$141,000 for the same period in 2000. The increase was primarily due to the increase in average cash investment balances during the first quarter of 2001, compared to the first quarter of 2000. Interest expense was \$1,474,000 for the three months ended March 31, 2001, compared to \$176,000 for the same period in 2000. The increase in the first quarter was primarily due to the interest expense on the subordinated notes payable. Interest expense on these notes consists of the 8% face value interest rate and the amortization of debt issuance costs.

Equity Interest in Loss of Equity-Method Investee

We recorded a \$9.1 million loss in connection with our equity method investees during the three months ended March 31, 2001. These losses reflect our pro rata share loss from our investments in DPI and the write off of our remaining investment in Akkadix.

Other Expense

Other expense was \$978,000 for the three months ended March 31, 2001 and represents the change in fair value of the warrants received as part of our investment in DPI in conformity with FAS 133 adopted in January 2001.

Liquidity and Capital Resources

We have financed our operations since inception primarily through private and public offerings of capital stock, through corporate collaborative research and from a secured convertible note. As of March 31, 2001, we have accumulated, approximately \$229 million in net proceeds from offerings of our capital stock. In addition, we have accumulated approximately \$183 million from our collaborative research agreements.

Our principal sources of liquidity are our cash and investments, which totaled \$29.4 million on March 31, 2001. Included in our investments on March 31, 2001 were 35,450 shares of common stock., which are subject to a lock-up agreement that restricts our ability to sell the securities. The lock up expires in June 2001.

In 2000, we sold our Axys Advanced Technologies subsidiary to DPI for approximately 7.4 million shares of DPI common stock. Later in 2000, we sold our interest in PPGx to DNA Sciences, Inc. for approximately 1.5 million shares of Series D Preferred Stock.

We used cash and cash equivalents of \$10.9 million in the operations of our company during the first quarter of 2001 compared to \$11.9 million in the same period in 2000.

We purchased approximately \$2.1 million of property and equipment during the first quarter of 2001. We expect to acquire or lease additional equipment in connection with future research and development activities. We are also expending cash in the construction of our new 43,500 square foot medicinal chemistry building adjacent to our principal offices and laboratory buildings in South San Francisco. We expect the building to be completed in the second half of 2001 and to relocate some of our employees from our off-campus medicinal chemistry building to the new building. At March 31, 2001, we have incurred approximately \$2.9 million on the construction and have commitments totaling approximately \$5.0 million. In April, we were notified of a commitment to provide the company with a building construction loan for a maximum of \$11.0 million loan at prime plus one percent for up to 15 months to complete the construction of this building.

The drug development process is expensive and will require that we raise money in the future until our company begins to generate substantial product or royalty revenues, if ever. We believe that existing cash, short-term investments, revenues from existing collaborations, potential proceeds from the liquidation of our long-term equity investments in DPI and DNAS, and potential additional licensing revenues will enable us to continue current and planned operations for 18-24 months. We continue to actively pursue a variety of financing alternatives. There can be no assurances that we can liquidate our investments in a timely manner, or that the proceeds from these investments will be adequate to meet our requirements to fund operations. Finally, the senior secured convertible notes are collateralized by approximately 6.7 million shares of the DPI stock we own; accordingly, at such time that the DPI shares are liquidated, a substantial portion of the proceeds may be used to retire the debt.

In July 2000, we completed a sale of \$10 million of our common stock, under a shelf registration relating to the offer and sale of up to \$50 million of our common stock. The shares of common stock were sold at a discounted weighted average price of \$6.10 to Acqua Wellington North American Equities Fund, Ltd.. Under the agreement with Acqua Wellington, we may, after additional SEC filings in accordance with federal securities laws, and at our discretion, issue and sell to Acqua Wellington up to an additional \$40 million of common stock, at a price per share based on the daily volume weighted average price. In addition, we may also grant to Acqua Wellington a right to purchase additional shares up to an amount equal to the number of shares we elect to sell during that period.

We expect that we will need to continue to raise money for a number of years until we achieve, if we ever achieve, substantial product or royalty revenues. We expect to seek additional funding through new collaborations, the extension of existing collaborations, through sale of our interests in DPI and DNAS, or through public or private equity or debt financings. We cannot be certain that additional funding will be available or that the terms will be acceptable. Existing stockholders will experience dilution of their investment if we raise additional funds by issuing equity. If adequate funds are not available, we may delay, reduce or eliminate any of our research or development programs. Furthermore, we may obtain funds through arrangements with collaborative partners or others that require us to give up rights to technologies or products that we would otherwise seek to develop or commercialize ourselves.

Certain Business Risks

We are at an early stage of development and will need a substantial amount of additional funding to continue to prosecute our research and development programs. Our proprietary research programs are, in many cases, several years from clinical development and require substantial additional research and development. All of our proposed products are in research or development and will require significant additional research and development efforts prior to any commercial use, including extensive and costly pre-clinical and clinical testing, as well as lengthy regulatory approval involving many complexities. Our research and development efforts may not be successful, our proposed products may not prove to be safe and efficacious in clinical trials, and no commercially successful products may ultimately be developed by us. In addition, many of our currently proposed products are subject to development and licensing arrangements with our collaborators. Therefore, we are dependent in many cases on the research and development efforts of these collaborators. Moreover, in cases where we are the licensor of its research programs, we are entitled only to a portion of the revenues, if any, realized from the commercial sale of any of the proposed products covered by the collaborations. We have experienced significant operating losses since inception and expect to incur significant operating losses over at least the next several years. The development of our proposed products will require a commitment of substantial funds to conduct these costly and time-consuming activities, which funds may not be available.

Should our collaborators or we fail to perform in accordance with the terms of the applicable agreements, any consequent loss of revenue under the collaboration agreements could have a material adverse effect on our business, financial condition and results of operations. The proposed products under development by we have never been manufactured on a commercial scale and it is possible that proposed products may not be able to be manufactured at a cost or in quantities necessary to make them commercially viable. We have no sales, marketing or distribution capability for its proposed products. If any of the products subject to our collaborative agreements involving licenses or our research programs are successfully developed, we must rely on our collaborators to market the products. We cannot ensure that any collaborator's marketing efforts would be successful.

If we develop any products which are not subject to collaborative agreements under which our research partner is the marketer, we must either rely on other pharmaceutical companies to market the products or we must develop a marketing and sales force with technical expertise and supporting distribution capability in order to market the products directly. We cannot guarantee that its marketing efforts would be successful.

The foregoing risks reflect our early stage of development and the nature of its industry and products. Also inherent in our stage of development are a number of additional risks, including competition, the substantially greater financial resources of a number of its competitors, uncertainties regarding protection of patents and proprietary rights, government regulation, uncertainties related to clinical trials and health care reform and the potential volatility of our stock price. These risks and uncertainties are discussed further in "Items 1. Business - What Factors Could Cause Our Results to Differ Significantly From Those You Might Expect?" and " - What Other Matters Should Stockholders Consider with Respect to the Company?" in the Company's Annual Report on Form 10-K for the year ended December 31, 2000, filed by us with the Securities and Exchange Commission on March 30, 2001.

ITEM 3: QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

The company's exposure to market risk is principally limited to its cash equivalents and investments that have maturities of less than one year. We maintain a non-trading investment portfolio of investment grade, liquid debt securities that limits the amount of credit exposure to any one issue, issuer or type of instrument. The securities in our investment portfolio are not leveraged, are classified as available-for-sale and are therefore subject to interest rate risk. We currently do not hedge interest rate exposure.

We are subject to market rate risks due to fluctuations in interest rates and equity markets. All of our long-term debt is in the form of fixed-rate notes with original maturities ranging over 4 years. Accordingly, fluctuations in interest rates can lead to fluctuations in the fair value of such instruments. We have not entered into financial derivatives to reduce its exposure to interest rate risks.

PART II. -- OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

None

ITEM 2. CHANGES IN SECURITIES

None

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None

ITEM 5. OTHER INFORMATION

None

ITEM 6. EXHIBITS AND REPORTS ON FORM 8-K

(a) EXHIBITS

Exhibit Number	Description
---------------------------	--------------------

- | | |
|-------|---|
| 3.1 | Amended and Restated Certificate of Incorporation. Previously filed on Form 10-K for the year ended March 31, 1998 and incorporated by reference. |
| 3.2 | Amended and Restated Bylaws. Previously filed on a Form S-1 registration statement (33-69972) filed October 5, 1993 and incorporated by reference. |
| 3.3 | Registrant's Certificate of Designation of Series A Junior Participating Preferred Stock. Previously filed on Form 8-K dated October 8, 1998 and incorporated by reference. |
| 4.1 | Rights Agreement dated as of October 8, 1998, among Axys and ChaseMellon Shareholders Services, LLC. Previously filed on Form 8-K dated October 8, 1998 and incorporated by reference. |
| 4.2 | Form of Rights Certificate. Previously filed on Form 8-K dated October 8, 1998 and incorporated by reference. |
| 4.3 | Indenture, dated September 22, 2000, between U.S. Bank Trust National Association and Axys. Previously filed on Form 8-K filed on September 28, 2000 and incorporated by reference. |
| 4.4 | Class A Common Stock Purchase Warrant, dated September 22, 2000, between Delta Opportunity Fund Limited and Axys. Previously filed on Form 8-K filed on September 28, 2000 and incorporated by reference. |
| 4.5 | Class B Common Stock Purchase Warrant, dated September 22, 2000, between Delta Opportunity Fund Limited and Axys. Previously filed on Form 8-K filed on September 28, 2000 and incorporated by reference. |
| 10.54 | Collaborative Research Agreement entered into June 12, 1995 by and between Sequana and Boehringer Ingelheim, Int'l. ⁽¹⁾ |

- 10.147 Executive Employment Agreement, dated December 14, 2000, by and between Douglas Altschuler and the registrant.
- 10.148 Amended and Restated Executive Employment Agreement, dated March 30, 2001, by and between Daniel F. Hoth, M.D. and the registrant.
- 10.149 Amended and Restated Executive Employment Agreement, dated March 28, 2001, by and between Michael C. Venuti, Ph.D. and the registrant.
- 10.150 Amended and Restated Executive Employment Agreement, dated March 27, 2001, by and between William J. Newell and the registrant.
- 10.151 Amended and Restated Executive Employment Agreement, dated March 27, 2001, by and between David E. Riggs and the registrant.
- 10.152 Executive Employment Agreement, dated January 23, 2001, by and between Paul J. Hastings and the registrant.
- 10.153 Pledge Agreement, dated January 23, 2001, by and between Paul J. Hastings and the registrant.
- 10.154 Promissory Note, dated January 2, 2001, by and between Paul J. Hastings and the registrant.

⁽¹⁾ A redacted version of this agreement was originally filed as Exhibit 10.10 to the Sequana Therapeutics Form S-1 registration statement (File No. 33-93460), (renumbered as Axys Exhibit 10.54 as a result of the merger between Axys and Sequana) pursuant to a confidentiality order dated, July 31, 1995. The order has expired and Axys is now filing an unredacted version of the agreement.

(b) REPORTS ON FORM 8-K

1. Axys filed a Current Report on Form 8-K on January 31, 2001, reporting the sale of our PPGx subsidiary to DNA Sciences, Inc.

2. Axys filed a Current Report on Form 8-K on March 8, 2001, reporting on the Company's year-end 2000 results. This report includes unaudited consolidated balance sheets dated December 31, 2000 and December 31, 1999 and unaudited consolidated statements of operation for the three months ended December 31, 2000 and December 31, 1999.
 3. Axys filed a Current Report on Form 8-K on March 21, 2001, reporting on the issuance of common stock as a result of an option exercise.
 4. Axys filed a Current Report on Form 8-K/A on March 29, amending the Form 8-K filed on January 31, 2001. This report includes unaudited pro forma condensed consolidated balance sheet dated September 30, 2000 and unaudited pro forma condensed consolidated statements of operations for the nine months ended September 30, 2000 and for year ended December 31, 1999.
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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AXYS PHARMACEUTICALS, INC.
(Registrant)

Dated: May 14, 2001

By: /s/ PAUL J. HASTINGS

Paul J. Hastings
President, Chief Executive Officer and Director (Principal Executive Officer)

Dated: May 14, 2001

By: /s/ DAVID E. RIGGS

David E. Riggs
Senior Vice President, Chief Financial Officer (Chief Accounting Officer and Principal Financial Officer)

INDEX TO EXHIBITS

Exhibit Number	Description
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- | | |
|-------|---|
| 3.1 | Amended and Restated Certificate of Incorporation. Previously filed on Form 10-K for the year ended March 31, 1998 and incorporated by reference. |
| 3.2 | Amended and Restated Bylaws. Previously filed on a Form S-1 registration statement (33-69972) filed October 5, 1993 and incorporated by reference. |
| 3.3 | Registrant's Certificate of Designation of Series A Junior Participating Preferred Stock. Previously filed on Form 8-K dated October 8, 1998 and incorporated by reference. |
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Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the securities and exchange commission pursuant to rule 406 of the securities act of 1933, as amended.

COLLABORATIVE RESEARCH AGREEMENT

This Collaborative Research Agreement

is entered effective as of June 12, 1995, by and between **Sequana Therapeutics, Inc.**, a California corporation, having its principal place of business at 11099 North Torrey Pines Road, Suite 160, La Jolla, California 92037 ("Sequana"), and **Boehringer Ingelheim International GmbH**, a German corporation having its principal place of business at D-55216 Ingelheim am Rhein ("BI").

Recitals

Whereas

, Sequana has generated data regarding the genetic basis of Asthma and Sequana and BI desire to collaborate in the investigation into the genetic basis of Asthma pursuant to the terms of this Agreement; and

Whereas

, the goal of the collaboration is to identify the gene or genes responsible for Asthma with a view to BI developing products for the prevention or treatment of Asthma; and

Whereas

, the Parties wish to provide for the allocation of rights to therapeutic compounds, compositions and products and all diagnostic devices, compounds, kits and services as provided herein; and

Whereas

, of even date herewith Sequana and BI have entered into a Stock Purchase Agreement pursuant to which BI has agreed to purchase, and Sequana has agreed to sell to BI, shares of Sequana Series F Preferred Stock.

Now, Therefore,

the Parties agree as follows:

1. DEFINITIONS

As used herein, the following terms will have the meanings set forth below:

1. "**Affiliate**" means any entity that directly or indirectly Owns, is Owned by or is under common Ownership, with a Party to this Agreement. "Own," "Owned" or "Ownership" means direct or indirect possession of at least fifty percent (50%) of the outstanding voting securities of a corporation or at least fifty percent (50%) equity interest in any other type of entity or substantial control of a corporation or any other entity.

2. "**Agreement**" means the present agreement together with the Exhibits attached hereto.
3. "**Annual Research Plan**" means the annual plan for Research as described in Article 2.6. An outline of the Annual Research Plan for the first year of the Agreement is set forth in Exhibit A.
4. "**Asthma**" means asthma, including airway hyperreactivity and atopy.
5. "**Asthma Database**" means any Result(s) that Sequana or BI owns, controls or has a license to, which such Party has the right to sublicense, relating to families or individuals with Asthma which the JRC designates to be the subject of the Research efforts of the Parties or any third party under this Agreement. This includes any Sequana Results existing as of the Effective Date.
6. "**Asthma Gene**" means a Gene that during the Research Term:
 - (i)
is discovered by either Party, or a third party directed by the JRC, through studies with the Asthma Database; and
 - (ii)
has been successfully cloned and sequenced by or for either Party; and
 - (iii)
has been shown by or for either Party to be altered or deleted in coding, non-coding or control regions in individuals, resulting in or associated with the pathophysiological or functional changes causing, predisposing or suppressing the development of Asthma.
7. "**BI Products**" means any pharmaceutical composition of a Compound for the treatment or prevention of Asthma in humans or animals which is covered by a BI Patent, Sequana Patent or Joint Patent. BI Products include Type I Products, Type 2a Products, Type 2b Products, Type 3 Products and Type 4 Products, which correspond, in each case, to the applicable Compound. BI Product shall not include any pharmaceutical composition of a compound that BI can demonstrate to the satisfaction of Sequana pursuant to Article 4.11.1 was either already in the structural optimization, pre-clinical or clinical phase of BI drug development for the prevention or treatment of Asthma, prior to the date of any disclosure to BI regarding the target such compound is active against, or was developed totally independently of the information developed through the Research.
8. "**BI Know-How**" means all tangible and intangible inventions, technology, trade secrets, data, processes, methods, and any physical, chemical or biological material, including any replication or any part of such material, or other information that BI owns, controls or has a license to as of the Effective Date or during the Research Term, that are necessary or useful to conduct the Research, and which BI has the right to sublicense. BI Know-How shall not include BI Patents, Joint Results or Joint Patents.
9. "**BI Patents**" means all Patent Applications having a priority date prior to four (4) years following the end of the Research Term, and any Patents issuing thereon, in each case, that are owned or controlled by BI, which claim the discovery, development, manufacture, sale or use of any Asthma Gene, Asthma Gene sequence information, Compound or any BI Product or Sequana Product. BI Patents shall not include BI Know-How, Joint Results or Joint Patents.

10. "**BI Result**" means any Result(s), made, created, developed or reduced to practice solely by employees of BI, its Affiliates, sublicensees, or other persons or entities on behalf of BI.
11. "**BI Software**" means any software, code or programs developed or owned-solely by BI or licensed exclusively to BI that BI has the right to sublicense.
12. "**BI Technology**" means, collectively, the BI Patents, BI Know-How, BI Results and BI Software.
13. "**Compound**", means any active ingredient for use in a BI Product. Compounds shall include Type 1, Type 2a, Type 2b, Type 3 and Type 4 Compounds.
 1. "**True 1 Compound**" means (i) a recombinant protein expressed by an Asthma Gene, or (ii) a peptide which is part of a protein expressed by an Asthma Gene, regardless of how made.
 2. "**Type 2a Compound**" means any Compound, developed based on information identified through the Research, that directly inhibits (in whole or part), directly alters the activity of, directly binds to, directly modulates or functionally replaces an Asthma Gene. By way of example and without limitation, examples of Type 2a Compounds would be (i) an antisense oligomer or a modification thereof or (ii) a polynucleotide used for gene therapy.
 3. "**Type 2b Compound**" means any Compound (other than a Type 1 Compound) developed based on information identified through the Research, that directly inhibits (in whole or part), binds to, modulates or functionally replaces all or part of a protein expressed by an Asthma Gene. By way of example and without limitation, examples of Type 2b Compounds would be (i) an antibody to the protein, (ii) a peptide, other than a part of a protein expressed by an Asthma Gene, or (iii) a small molecule drug.
 4. "**Type 3 Compound**" means any Compound (other than a Type 1, 2a or 2b Compound) developed based on an intervention point or target (other than an Asthma Gene or its Gene product) upstream or downstream in a biochemical pathway elucidated through the Research.
 5. "**Type 4 Compound**" means any Compound directed at a target which BI can demonstrate to the satisfaction of Sequana has been screened by BI for the identification of compounds for the prevention or treatment of Asthma, prior to the target having been validated by the information identified through the Research.
6. "**Confidential Information**" means, subject to the limitations set forth in Article 8, all BI Technology, Sequana Technology, and all Joint Results.
7. "**Dominating Patent**" shall mean an unexpired patent that has not been invalidated by a court or a governmental agency which is owned by a third party neither controlled, controlling nor under common control with BI nor its Affiliates or sublicensees covering essential features of BI Products made and sold by BI under circumstances such that BI has no commercially reasonable alternative to obtaining a royalty-bearing license under such patent in order to commercialize BI Products under this Agreement.
8. "**Effective Date**" means the date set forth in the caption above.
9. "**FDA**" means the United States Food and Drug Administration, or any successor organization.

10. "**Field**" means the identification and study through the use of the Asthma Database of human Genes and Gene sequence information responsible for causing, predisposing or suppressing the development of Asthma.
11. "**Full Time Equivalent**" or "**FTE**" shall mean 1880 hours of work in the Research per year.
12. "**Gene**" means a gene including all its regulatory sequences, and any and all variants thereof, including, without limitation, "splice variants," alleles and mutations of the gene.
13. "**Investigational New Drug Application**" or "**IND**" means an application to commence Phase I clinical trials in a Major Country.
14. "**Joint Patents**" means any or all Patents and Patent Applications, both U.S. and foreign, based upon Joint Results, that have a priority date on or before four (4) years after the end of the Research Term.
15. "**Joint Research Committee**" or "**JRC**" means a committee of Sequana and BI employees as described in Article 3.1.
16. "**Joint Results**" means any Result or Results made or discovered jointly by Sequana (including its Affiliates, sublicensees, or other persons or entities on behalf of Sequana) together with BI (including its Affiliates, sublicensees, or other persons or entities on behalf of BI).
17. "**Major Country**" means any of the United States of America, Canada, Australia, Japan or any country in the European Union.
18. "**Net Sales**" means the actual billing price received by the Parties or their Affiliates or sublicensees, as appropriate, from sales of BI Products or Sequana Products to third party customers (but not including the sale by BI or Sequana to their respective Affiliates or sublicensees), less the following deductions:
 - (i)
Prompt payment or other trade or quantity discounts actually allowed and taken in such amounts as are customary in the trade, including private sector or governmental rebates such as Medicaid rebates or rebates to pharmaceutical benefit organizations or managed health care groups, directly relate to such;
 - (ii)
Amounts repaid or credited by reason of timely rejections or returns;
 - (iii)
Taxes (other than franchise or income taxes on the income of the selling Party), including any withholding taxes, directly related to such sale and actually paid; and
 - (iv)
Transportation and delivery charges, including insurance premiums, actually incurred.
19. "**New Drug Application**" or "**NDA**" means a new drug application to the IDA or the equivalent agency of the European Union or Japan to commence commercial sale of a drug.

20. "**Party or Parties**" means BI or Sequana, or BI and Sequana.
21. "**Patent**" means an United States or foreign patent or supplementary protection certificate issued on a Patent Application, including, all extensions, reissues, re-examinations, renewals, and inventors' certificates, and all foreign counterparts of the aforementioned.
22. "**Patent Application**" means a United States or foreign application for a Patent, including all substitutions, divisionals, continuations, and continuations-in-part, and all foreign counterparts of the aforementioned.
23. "**Product License Application**" or "**PLA**" means an application to the FDA or the equivalent agency of the European Union or Japan to commence commercial sale of a biological.
24. "**Research**" means all work by or on behalf of BI and Sequana in the Field during the Research Term.
25. "**Research Term**" means the period commencing on the Effective Date and ending on the first to occur of: (i) termination of this Agreement according to Article 12; or (ii) the fifth anniversary of the Effective Date, or such later day as the parties may agree pursuant to Article 2.12.
26. "**Result(s)**" means any and all inventions, discoveries, methods, ideas, know-how, data (including the Asthma Database), software, techniques and information, including any gene, genes, and sequence information whether or not patentable, and all Patents, Patent Applications, and other proprietary rights appurtenant thereto, that are made, created, or reduced to practice in the course of the performance of the Research or existing as of the Effective Date, as well as any and all reports relating to the conduct of the Research during the Research Term.
27. "**Sequana Product**" means a diagnostic product in the form of a device, compound, kit or service developed based on an Asthma Gene, and that is covered by a claim of a BI Patent, Sequana Patent or Joint Patent.
28. "**Sequana Know-How**" means all tangible and intangible inventions, technology, trade secrets, data, processes, methods, and any physical, chemical or biological material, including any replication or any part of such material, or other information that Sequana owns, controls or has a license to as of the Effective Date or during the Research Term, that are necessary or useful to conduct the Research, and which Sequana has the right to sublicense. Sequana Know-How shall not include Sequana Patents and Sequana Software.
29. "**Sequana Patents**" means all Patent Applications having a priority date prior to four (4) years following the end of the Research Term, and any Patents issuing thereon, in each case, that are owned or controlled by Sequana and claim the discovery, development, manufacture, sale or use of any Asthma Gene, Asthma Gene sequence information, Compound, BI Product or Sequana Product. Sequana Patents shall not include Sequana Know-How, Joint Results or Joint Patents.
30. "**Sequana Result**" means any and all Results made, created, developed or reduced to practice solely by employees of Sequana, its Affiliates, sublicensees, or other persons or entities on behalf of Sequana.
31. "**Sequana Software**" means any software, code or programs developed or owned solely by Sequana or licensed exclusively to Sequana that Sequana has the right to sublicense.
32. "**Sequana Technology**" means, collectively, the Sequana Patents, Sequana Know-How, Sequana Software, and Sequana Results.

33. "SLRI" means the Samuel Lunenfeld Research Institute/Mt. Sinai Hospital.

34. "SLRI Agreement" means that certain agreement entered by Sequana and Mount Sinai Hospital Corporation, effective as of July 15, 1994.

14. RESEARCH

1. **Research Goals.** During the Research Term, BI and Sequana shall conduct Research on a collaborative basis with the goal of discovering Asthma Genes. Specific goals of the Research will be the identification of the Gene or Genes associated with Asthma, including analysis of genetic linkage, physical mapping, sequencing and identification of mutations in any particular Gene resulting in or associated with the pathophysiological or functional changes causing, predisposing or suppressing the development of Asthma.

2. Initial Fee

. Within fifteen (15) days after the Effective Date, BI will pay to Sequana an initial fee of \$2,000,000, which amount shall be non-refundable and noncreditable against other amounts due Sequana under this Agreement.

3. Research and Funding Obligations

1. General Obligations

. Each party shall use reasonable commercial efforts to carry out their responsibilities in connection with the Research to achieve the objectives of the Research as promptly as practicable.

2. Sequana Research Obligations

. During the Research Term, Sequana will commit to the Research a team of ten (10) appropriately qualified full time equivalent ("FTE") researchers (averaged over each calendar year), or such greater number of FTE researchers as the JRC may agree, to conduct the Research. Sequana shall be responsible for the management of its employees and contractors, including compensation and evaluation.

3. BI Research Obligations

. BI, at BI's expense, will to the extent available to BI, provide the necessary personnel, resources, expertise and support for the activities necessary to carry out BI's obligations under this Agreement in an effective and timely manner. BI shall be responsible for all of its own expenses incurred in connection with the Research and shall be responsible for the management of its employees and contractors, including compensation and evaluation.

4. BI Funding Obligations

. BI will provide Sequana funding for each FTE Sequana researcher involved in the Research at a rate of \$280,000 per year per FTE for the first year of the Agreement, which amount shall increase by five percent (5%) per year in each subsequent year of the Research. Such amounts shall be paid to Sequana in equal installments every three (3) months, in advance, with the first payment due within fifteen (15) days after the Effective Date and the second payment due within fifteen (15) days following the approval by the JRC of the initial Research Plan but in no event earlier than three (3) months after the Effective Date.

5. Research Patient Collection and Research Patient Collection Funding

1. SLRI Agreement

. Prior to the Effective Date, Sequana has entered into the SLRI Agreement which provides Sequana exclusive rights to study patient samples provided by SLRI, including samples from Tristan da Cunha. The Tristan da Cunha samples obtained by Sequana from SLRI shall be used in connection with the Research, and Sequana shall be responsible for paying to SLRI any amounts due under the SLRI Agreement for the use of such patient samples in the Research.

2. Further Patent Samples: Third Party Research Activities

. Sequana shall be reimbursed for the costs of acquiring patient samples under agreements (other than the Tristan da Cunha samples under the SLRI Agreement) entered by Sequana prior to the Effective Date as outlined in Exhibit B in the sum of \$347,000. During the Research Term, Sequana may, with the consent of the JRC, enter into further agreements to acquire additional patient samples for use in the Research. BI will pay to Sequana the costs of acquiring such patient samples within thirty (30) days of Sequana incurring such costs, up to a total of \$6,000,000 (which sum includes the \$347,000 to be reimbursed to Sequana, which amount shall be paid to Sequana within fifteen (15) days of the Effective Date). Subject to JRC approval, a portion of such \$6,000,000 may be paid to third parties for the conduct of Research activities.

3. Research Milestones.

1. Milestone Payments

. BI will pay to Sequana the research milestone payments below within thirty (30) days of the date of confirmation by the JRC of the achievement of such milestone.

(a) Completion of genotyping and linkage analysis. Linkage for distinct loci determined at a maximal interval size (=flanking markers) of 5 cM, with LOD scores >3 or p values < 0.01 depending on the patient material (i.e., families or sib pairs) for linked markers.	\$1,000,000
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(b) Completion of physical mapping containing greater than 95% of the minimal region, not to exceed the flanking markers described above.	\$1,000,000
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(c) Successful identification of any Asthma Gene, up to a total of five (5) Asthma Genes. Successful identification shall be shown by isolation of a cDNA with at least one of the following characteristics:

(i) significant sequence re-arrangements in the coding or the promoter region in affected individuals; or (ii) obvious disease-specific re-arrangements detected by SSCP, DGGE or other appropriate mutation detection technologies.

For each of the first two Asthma Genes. \$2,000,000

For each of the third, fourth and fifth Asthma Genes. \$1,000,000

No further milestones shall be due for any additional Asthma Genes, beyond the first five (5) Asthma Genes, subject to Article 2.5.2.

Notwithstanding the above, payments for successful identification shall only be made with respect to Gene sequences which have not previously been patented by a third party or publicly shown to be altered in asthma patients at the time of the identification of such sequences.

4. Creditability

. The research milestone payments for Gene identification paid pursuant to Article 2.5.1(c) with respect to a particular Asthma Gene shall be non-refundable but creditable against any further milestone or royalty payments owed by BI to Sequana under this Agreement in the event that any Type 1, Type 2a or Type 2b Compound (but not a Type 3 or Type 4 Compound) based on such Asthma Gene is found following such payment to be within the scope of the claims of a Dominating Patent. In each such event, the applicable Asthma Gene shall be deemed not to be one of the first five Asthma Genes and one further Asthma Gene beyond the first five Asthma Genes identified will be counted as one of the first five Asthma Genes for the purpose of any of the payment of Gene identification milestones in accordance with Article 2.5.1(c).

5. JRC Determination

. The JRC shall be responsible for determining when each milestone has been achieved, and shall promptly make such determination in writing. Each milestone shall be deemed to have been achieved when sufficient data is available to proceed to the next stage of research. In the event the JRC cannot agree whether a milestone has been achieved, the decision will be subject to the dispute resolution procedure of Article 3.5.

6. Research Projects

1. Annual Research Plan

. The particular Research projects to be carried out in each year of the Research Term will be described in the Annual Research Plan prepared by the JRC according to this Article 2.6. The Annual Research Plan will delineate the specific studies, number of researchers, timetable and technical goals to be pursued by Sequana and BI during the applicable year. The Annual Research Plan for the first year of the Research Term will be written by the JRC based on the outline in Exhibit A within ninety (90) days of the Effective Date and thereafter by each anniversary of the Effective Date.

2. Responsibilities of the Parties

. The Annual Research Plan(s) shall provide that the Parties have the following responsibilities: Sequana shall be responsible for conducting genotype analysis on appropriate patient DNA samples and linkage analysis; Sequana shall be responsible for gene identification studies, although BI may at its discretion participate in such activities; and BI shall be responsible for Gene expression and functional analysis of the Gene product(s) from the Genes identified, although Sequana may at the discretion of the JRC participate in such activities.

3. Access To Technology

1. BI Technology

. BI shall make available and disclose to Sequana during the Research Term the BI Technology necessary or useful to conduct the Research.

2. Sequana Technology

. Sequana shall make available and disclose to BI during the Research Term the Sequana Technology necessary or useful to conduct the Research.

3. Availability of Samples

. Both Sequana and BI will make available to the other chemical or biological samples relating to the Asthma Database, in their possession, from the Effective Date until the date three (3) years after the end of the Research Term. Such samples may include, but are not limited to, DNA and RNA.

4. No Licenses

. No licenses are granted pursuant to this Article 2.7. All license rights granted the Parties are contained in Article 5.

5. Access to Data

. During the Research Term, each Party will provide the other with raw data in original or on-line form or a photocopy thereof for any and all Results as reasonably requested by the other Party.

6. Discovered Genes and Sequence Information

. Both Sequana and BI shall notify the other as soon as reasonably practicable, of any Asthma Gene and Asthma Gene sequence information discovered during the Research Term from the analysis of the Asthma Database, or any Gene(s) or Gene sequence information discovered during the Research Term by a Party in any way implicated in Asthma.

7. Rights to Gene Sequence Information

. Following the identification of any Gene or Gene sequence information from the Asthma Database that is determined not to be an Asthma Gene by the JRC, Sequana shall grant to BI the right of first

refusal to acquire an exclusive or non-exclusive license, with the right to grant sublicenses according to Article 5.3, of Sequana's rights in the identified Gene or Gene sequence. BI shall have six (6) months from the date of the determination by the JRC that the pertinent Gene or Gene sequence is not an Asthma Gene to exercise its right of first refusal. Upon written notification by BI to Sequana that it wishes to enter into a license agreement with respect to the Gene or Gene sequence, the Parties shall negotiate such an agreement in good faith. During such six (6) month period BI shall offer in writing the terms pursuant to which BI would enter into a license agreement with Sequana with respect to such Gene or Gene sequence information. If after the expiration of six (6) months from the date of determination by the JRC with respect to any Gene or Gene sequence, BI has not notified Sequana in writing of its interest in entering into a license agreement with respect thereto, or upon earlier notification by BI to Sequana that it is not interested, or, if BI has exercised its right of first refusal but the parties have failed to execute a license agreement within six (6) months from the date that BI provided Sequana notice of its interest in acquiring such a license (the "Negotiation Period"), each Party may immediately use such Gene or Gene sequence for any purpose; provided, if BI has exercised its right of first refusal, Sequana will not grant a third party a license with respect to any such Gene or Gene sequence on terms more favorable to the third party than those offered by BI to Sequana during the Negotiation Period.

8. Final Report

. Within ninety (90) days following the end of the Research Term, the Parties shall exchange final written reports detailing the Research.

9. Research Term Extension

. Not less than ninety (90) days prior to the fifth anniversary of the Effective Date, each Party shall inform the other whether it wishes to continue the Research Term for an additional one (1) year period to complete on-going projects. If both Parties desire to continue the Research, the Research Term shall be extended until the sixth anniversary of the Effective Date.

10. JOINT RESEARCH COMMITTEE

1. **Composition of the JRC.** Within ten (10) days of the Effective Date, each Party will assign three (3) of its employees involved in the Research to serve as regular members of the JRC. BI or Sequana may replace any of its appointed representatives to the JRC without the necessity of amending this Agreement upon written notice to the other Party. Other nonvoting representatives of either Party, including employees not directly performing Research, may from time to time, with the consent of the JRC, be asked or permitted to participate in JRC meetings, but shall not be entitled to vote on decisions made by the JRC at such meetings. The Parties hereby agree that a representative of SLRI reasonably acceptable to the Parties shall be permitted to participate in JRC meetings but shall not be entitled to vote on decisions made by the JRC at such meetings.

2. Meetings

. The JRC will meet at least quarterly at a venue and time to be agreed by the Parties. Unless otherwise agreed, the location of the meetings shall alternate between BI's facilities at Ingelheim, Germany or Vienna, Austria, and Sequana's facilities at San Diego, California, with the first JRC meeting to take place in Vienna, Austria. The Party hosting the meeting shall prepare a written report within thirty (30) days after the meeting, summarizing in reasonable detail any reports of the Parties during the meeting regarding the Results of the Research of each Party during the immediately preceding period. During the Research Term, the Parties shall exchange written reports not less often than four (4) times per year presenting a meaningful summary of the Research.

3. Decisions

. A quorum consisting of at least two (2) representatives of each Party must be present in order for the JRC to conduct an official meeting. All decisions of the JRC will require the unanimous vote of its regular members, whether or not present at the meeting. Votes can be conducted in person or by written consent. Any matters which cannot be resolved by the JRC shall be referred to the Chief Executive Officer of Sequana and Corporate Board Member, Pharmaceuticals of BI for resolution, pursuant to Article 3.5 below.

4. Rights and Duties of the JRC

. The JRC shall:

(i)

facilitate the exchange of Results between the Parties;

(ii)

coordinate and plan the respective Research efforts of the Parties;

(iii)

direct the Research, and monitor and assess the progress of such Research in relation to the stated goals and objectives of this Agreement;

(iv)

advise and assist in the resolution of any scientific or technical difficulties which are experienced by either Party in performing the Research;

(v)

consider Results, inventions and discoveries arising out of the Research including the determination and acknowledgment of whether or not an identified sequence is an Asthma Gene;

(vi)

review and attempt to resolve any disputes relating to a proposed publication of material related to the Research;

(vii)

review and attempt to resolve any other disputes between the Parties;

(viii)

prepare each Annual Research Plan;

(ix)

adjust the size and composition of the Research team of Sequana, and advise BI regarding the size and composition of its Research team;

(x)

stipulate when research milestones have been achieved according to Article 2.5; and

(xi)

prepare an annual estimate of payments to be made by BI to Sequana under the terms of this Agreement.

5. Dispute Resolution

. Any dispute between the Parties which cannot be amicably settled, shall be resolved as set forth below.

1. Technical Disputes

. Disputes concerning any matter relating to this Agreement which has a significant technical component, including without limitation, (i) the conduct of the Research; (ii) whether any research milestone subject to Article 2.5 has been achieved; or (iii) whether a particular product developed or distributed by BI or its Affiliates or sublicensees subject to this Agreement falls within the definition of a particular BI Product Type, shall be resolved as follows. Upon written notice of a dispute by either Party to the other, representatives of the Parties shall meet within thirty (30) days, or such other period as the parties may agree, to attempt to resolve the dispute. During the Research Term, such representatives shall be members of the JRC; following the Research Term, such representatives shall be designated by the Chief Executive Officer of Sequana and the Corporate Board Member, Pharmaceuticals of BI for their respective Parties. If such representatives resolve the dispute, they shall set forth in writing the resolution. If the representatives are unable to resolve any such dispute within the specified period, the dispute shall be automatically referred to the Chief Executive Officer of Sequana and the Corporate Board Member, Pharmaceuticals of BI, who will have a reasonable agreed period to resolve the dispute. If the Chief Executive Officer of Sequana and the Corporate Board Member, Pharmaceuticals of BI resolve any such dispute, they shall set forth the resolution in writing. If the Chief Executive Officer of Sequana and the Corporate Board Member, Pharmaceuticals of BI are unable to resolve the dispute within a reasonable agreed time, and either Party wishes to finally resolve the matter the dispute shall be resolved by binding arbitration pursuant to the procedure described in Article 3.5.2 below.

2. Arbitration

. Within thirty (30) days following the decision of the Chief Executive Officer of Sequana and the Corporate Board Member, Pharmaceuticals of BI that they cannot resolve a technical dispute subject to Section 3.5.1, either Party may submit such matter to binding arbitration. Such arbitration shall be conducted by three (3) arbitrators in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("AAA"). The Parties shall attempt to agree on individuals who will serve as the arbitrators, selecting persons reasonably qualified to resolve such technical disputes. If the Parties are unable to select arbitrators within the thirty (30) day period, then the arbitrators shall be selected in accordance with AAA Rules. Within seven (7) days after the appointment of the arbitrators, each Party shall submit to the arbitrators and each other a detailed written statement of that Party's proposed resolution of the dispute. The arbitrators shall be entitled to select one or the other of the proposed resolutions and shall not be entitled to modify any proposed resolution

or to select a resolution other than one of those that has been submitted by a Party. The arbitrators shall select the proposed resolution that is the closest to the resolution that the arbitrators believe is most consistent with the Parties' obligations and expectations as evidenced by this Agreement and also taking into consideration notions of fairness and what is appropriate under the circumstances. The arbitrators shall inform the Parties in writing of the resolution selected as promptly as possible and in no event later than thirty (30) days after submission of the last written statement by a Party. The decision of the arbitrators may be enforced in any court of competent jurisdiction. The costs of any arbitration shall be divided equally between the Parties, and the Parties shall pay their own expenses (including attorneys fees) incurred in connection with such arbitration.

3. Non-Technical Disputes

. With respect to any dispute which is not subject to Articles 3.5.1 and 3.5.2, either Party may seek remedies at law or in equity, subject to Article 16.1 below.

6. DEVELOPMENT MILESTONES AND ROYALTIES

1. Milestones.

1. Milestone Payments

. BI shall pay to Sequana the applicable milestone payments set forth below, subject to Article 4.1.2, within thirty (30) days after the achievement of the following development milestones with respect to each BI Product: ("M" = millions of U.S. dollars)

	Type 1 Product	Type 2a Product	Type 2b Product	Type 3 Product	Type 4 Product
IND filing	\$ 2 M	\$2M	\$ 1 M	\$ 1 M	\$ 0.5M
NDA/PLA filing	\$ 4 M	\$ 3 M	\$2M	\$2M	\$ 2 M
NDA/PLA approval	\$ 8 M	\$4M	\$2M	\$2M	\$ 2 M

The milestone payments made pursuant to this Article 4.1 shall be non-refundable but creditable against royalties due Sequana pursuant to Article 4.2 below, beginning in the year following the third full calendar year of commercial sale of any BI Product, up to a maximum of fifty percent (50%) of the royalties due in any year.

2. Milestone Reductions

. The milestone payments made pursuant to this Article 4.1 shall be reduced for subsequent Type 1, Type 2a and Type 2b Products as follows: (i) for the second BI Product of a particular BI Product Type based on a different Asthma Gene from the first BI Product, BI shall pay to Sequana seventy percent (70%) of the milestone payments above for such BI Product; and (ii) for the third BI Product of a particular BI Product Type based on a different Asthma Gene from the first two BI Products, BI shall pay to Sequana fifty percent (50%) of the milestone payments above for such BI Product; provided, no milestone payments shall be due for any such subsequent BI Product of a particular BI Product Type.

3. Milestone Payment Exclusions

. Notwithstanding the above, no additional milestone payment shall be due by BI under this Article 4.1 for a subsequent IND or NDA (as applicable) for improvements or modifications to a BI Product based on a particular Asthma Gene, if the BI Product is functionally equivalent to a BI Product based on the same Asthma Gene for which the applicable commercialization milestone has been previously paid. As used herein, an improved or modified BI Product shall be deemed functionally equivalent to another BI Product if it works by a similar mechanism and is directed at the same target.

4. Royalties

. BI shall pay to Sequana the royalties set forth below on Net Sales of BI Products by BI, and its Affiliates and sublicensees:

	<u>Royalty</u>
Type I Product	12%
Type 2a Product	5%
Type 2b Product	3%
Type 3 Product	2%
Type 4 Product	2%

In the event that a commercially significant competitive product that acts on the same intervention point as a Type 3 or Type 4 Product is introduced by a party other than BI or its Affiliates or sublicensees into a geographic market in which BI has Net Sales, the royalties due to Sequana on such Type 3 or Type 4 Product in that market shall be reduced to 1% of Net Sales, from the date the competitive product is introduced into the particular market, as long

as such product is sold in that market, and such royalties shall not be subject to any further reductions or offsets. In the event such competitive product that acts on the same intervention point as a Type 1, Type 2a or Type 2b Product is introduced by a party other than BI or its Affiliates or sublicensees into such market, the Parties will meet to discuss whether a reduction should be made in the royalties payable to BI; provided, no such reduction shall occur without the mutual written consent of the Parties.

5. Royalty to BI on Sequana Products

. In the event that BI has contributed significantly to the development of a Sequana Product (other than through the support of or performance of the Research), the parties shall negotiate in good faith a royalty to be paid to BI by Sequana on Net Sales of such Sequana Product, which royalty shall reflect BI's contribution to the development of such Sequana Product.

6. Third Party Licenses and Royalties

. BI shall be responsible for the payment of any amounts due third parties for Intellectual property necessary for the performance of the Research and the commercialization of the BI Products; provided, BI may offset any amounts due third parties under licenses required to commercialize BI Products, up to a maximum of fifty percent (50%) of the royalties due Sequana in any quarter. Notwithstanding the above, Sequana shall be responsible for payments due SLRI under the SLRI Agreement.

7. Royalty Term

. BI's obligation to pay royalties to Sequana shall continue for each BI Product on a country-by-country basis until the earlier of (i) twelve (12) years following the first commercial sale of a BI Product in a country, or (ii) the expiration of the last to expire Patent within the BI Patents, Sequana Patents or Joint Patents covering a particular BI Product in such country.

8. Reports; Payments

. BI shall deliver to Sequana written reports (consistent with generally accepted accounting principles and in a format specified by the Parties and consistent with BI internal accounting policy) within sixty (60) days after the close of each calendar quarter, showing separately for each BI Product: (i) gross sales by BI, its Affiliates and sublicensees, broken down by both units sold and revenue and the calculation of Net Sales pursuant to Article 1.26; (ii) details of the quantities sold in each country; (iii) royalties due to Sequana pursuant to Articles 4.2; and (iv) details of payments (if any) by BI to third parties pursuant to any third party licenses, as described in Article 4.4 above. Concurrently with the making of each such report, BI shall pay to Sequana all royalties due on account of Net Sales during the preceding calendar quarter.

9. Late Payments

. In the event either Party makes a late payment or any amounts due under this Agreement, such Party shall pay interest on such amount from the date such payment was due at a rate equal to the prime rate reported by the Deutsche Bank, Frankfurt am Main, Germany plus two percent. The foregoing shall in no way limit any other remedies available to either Party.

10. Currency Conversion

. All amounts required to be paid pursuant to this Agreement shall be paid in U.S. Dollars. If any currency conversion shall be required in connection with the calculation of royalties hereunder, such conversion shall be made by converting the currency first into German marks and then into U.S. Dollars using in both cases the average monthly exchange rates as

published regularly by Deutsche Bank, Frankfurt am Main, Germany, and as customarily used by BI in its accounting system.

11. Audits

. BI shall keep complete and accurate records in sufficient detail to properly reflect all gross sales, deductions from Net Sales, and to enable the royalties payable hereunder to be determined. Upon the written request of Sequana not more than once in each calendar year, BI shall permit an independent certified public accounting firm of nationally recognized standing, selected by Sequana and reasonably acceptable to BI, and at Sequana's expense (except as provided below), to have access during normal business hours to such of the records of BI as may be reasonably necessary to verify the accuracy of the royalty reports hereunder for any year ending not more than twenty-four (24) months prior to the date of such request. The accounting firm shall disclose all information gathered or concluded to BI and to Sequana, only whether the records are correct or not and the specific details concerning any discrepancies. No other information shall be shared with Sequana. If the accounting firm concludes that additional royalties were owed during such period, BI shall pay all costs associated with the audit and the unpaid royalties within thirty (30) days of the date the accounting firm delivers the firm's written report to the Parties, with interest thereon at the prime rate reported by the Bank of America on the last calendar day of the quarter in which such payments were due. Should the accounting firm conclude that BI has over paid any royalties, Sequana shall credit any overpayment to BI against amounts later due Sequana.

12. Withholding Taxes

1. Deduction

. BI shall deduct any withholding taxes from the payments due under this Agreement and pay them to the proper tax authorities as required by the laws of Germany applicable at the date of payment. BI shall not deduct any other withholding or any other governmental charges from the payments due under this Agreement, including but not limited to any such taxes or charges incurred as a result of an assignment pursuant to Article 13 or a sublicense pursuant to Article 5 by BI, except as noted above. BI shall annually provide Sequana with official receipts of payment of any withholding taxes and forward these receipts to Sequana. The Parties shall use their best efforts to ensure that any withholding taxes imposed are reduced or eliminated as far as possible under the terms of the current or any future double taxation agreement between the U.S. and Germany.

2. Certificate of Tax Exemption

. In accordance with the tax laws of Germany as of the Effective Date, a reduction of withholding tax requires that the German Bundesamt für Finanzen issue a Certificate of Tax Exemption. In order to achieve such a reduction, Sequana shall provide BI with a completed Application for Tax Exemption and a Certificate of Filing a Tax Return, which forms shall have been provided by BI to Sequana prior to the Effective Date. Payments due to Sequana under the terms of this Agreement are not payable to Sequana until the pertinent Applications for Tax Exemption are provided by Sequana to BI. Notwithstanding the above, BI shall make the payments due to Sequana under the terms of this Agreement, net of any applicable withholding. BI

shall notify Sequana as soon as reasonably practicable of any changes regarding the procedure for claiming withholding tax exemptions.

1. Product and Compound Definition Disclosures

1. BI Product

. Within ten (10) days of the Effective Date, and annually thereafter on the anniversary of the Effective Date, BI shall deposit with Wilson, Sonsini, Goodrich & Rosati, P.C., or another agreed party, a sealed list of all compound identification numbers and products for which BI and its Affiliates have initiated structural optimization, pre-clinical or clinical development for the treatment or prevention of Asthma. Unless otherwise agreed by the Parties, such lists shall remain sealed unless a dispute arises with respect to whether a particular product is a BI Product within the scope of Article 1.7. In such event, both Parties shall be entitled to copies of such lists for purposes of resolving such dispute. Sequana shall treat such copies as Confidential Information.

2. Type 4 Compound

. Within ten (10) days of the Effective Date, and annually thereafter on the anniversary of the Effective Date, BI shall deposit with Wilson, Sonsini, Goodrich & Rosati, P.C., or another agreed party, a sealed list of targets against which BI has initiated screening for the identification of compounds for the prevention or treatment of Asthma. Unless otherwise agreed to by the Parties, such lists shall remain sealed unless a dispute arises with respect to whether a particular product contains a Type 4 Compound within the scope of Article 1.13.5. In such event, both Parties shall be entitled to copies of such lists for purposes of resolving such dispute. Sequana shall treat such copies as Confidential Information.

2. GRANT OF LICENSES

1. Licenses to BI.

1. Technology License for Research

. Subject to the terms and conditions of this Agreement, Sequana grants to BI an exclusive, except as to Sequana, paid-up, worldwide license, with the right to sublicense pursuant to Article 5.3.1, under (i) the Sequana Technology existing as of the Effective Date and developed during the Research Term, and (ii) Sequana's interest in the Joint Results and Joint Patents, to make and use methods and materials to conduct the Research in the Field during the Research Term.

2. Technology License for Commercialization of BI Products

. Subject to the terms and conditions of this Agreement, Sequana grants to BI, an exclusive, even as to Sequana, worldwide license, with the right to sublicense pursuant to Article 5.3.1 under (i) the Sequana Technology, and (ii) Sequana's interest in the Joint Results and Joint Patents, to make, have made and use Compounds, and to make, have made, use and sell BI Products, including all activities necessary to discover and develop Compounds and BI Products.

3. Right of First Refusal for Commercialization of Sequana Products

. Sequana hereby grants to BI a Right of First Refusal to acquire an exclusive, world wide license with the right to grant sublicenses according to Article 5.3.1 under (i) the Sequana Technology and (ii) Sequana's interest in the Joint Results and the Joint Patents to make, have made, use and sell Sequana Products.

1. In relation to Sequana Products that are necessary for the successful marketing of a BI Product based on the same Asthma Gene, the Right of First Refusal shall commence upon the earlier of (i) notification by Sequana to BI of its decision to sublicense the development of Sequana Products, or (ii) at the time BI enters Phase III testing for the corresponding BI Product, in the event that Sequana has not earlier submitted the pertinent Sequana Product to the FDA for marketing approval or is not capable of providing diagnostic services, and shall terminate six (6) months thereafter or at such other time as the Parties may mutually agree in writing. As used in this Article 5.1.3 and in Article 5.4, "necessary" shall mean required for the identification of the patient population to be treated by a particular BI Product.
2. In relation to any Sequana Products not subject to Section 5.1.3.1. above, the Right of First Refusal shall commence upon notification by Sequana to BI of any decision to sublicense the development of such Sequana Product and shall terminate within six (6) months thereafter or at such other time as the Parties may mutually agree in writing.
3. The Right of First Refusal may be exercised by BI by providing written notice to Sequana of its interest in entering into a license agreement and the parties shall negotiate such an agreement in good faith for a period of six (6) months.
4. After the termination of the Right of First Refusal, or any mutually agreed extension thereof, if BI has failed to exercise the Right of First Refusal, or if BI and Sequana have not entered into a license with respect to the applicable Sequana Product within the specified period, Sequana shall have the right to seek other sublicensees according to Article 5.3.2; provided, however, that Sequana shall not enter into such a license with any third party on terms more favorable than those offered to BI.

4. Licenses to Sequana

1. Technology License for Research

. Subject to the terms and conditions of this Agreement, BI grants to Sequana an exclusive, except as to BI, paid-up, worldwide license, with the right to sublicense pursuant to Article 5.3.2, under (i) the BI Technology existing as of the Effective Date and developed during the Research Term, and (ii) BI's interest in the Joint Results and Joint Patents, to make and use methods and materials to conduct the Research in the Field during the Research Term.

2. Technology License for Commercialization of Sequana Products

. Subject to the terms and conditions of this Agreement, BI grants to Sequana, an exclusive, even as to BI, worldwide license, with the right to sublicense pursuant to

Article 5.3.2 under (i) the BI Technology, and (ii) BI's interest in the Joint Results and Joint Patents, to make, have made, use and sell Sequana Products including all activities necessary to discover and develop Sequana Products.

3. Technology License for the Commercialization of BI Products

. In the event of termination pursuant to Article 7.4, BI grants to Sequana, subject to the terms and conditions of this Agreement, an exclusive, even as to BI, worldwide license, with the right to sublicense pursuant to Article 5.3.2 under (i) the BI Technology, and (ii) BI's interest in the Joint Results and Joint Patents, to make, have made, use and sell BI Products.

4. Sublicensing

1. Sublicenses Granted by BI

. BI shall have the right to grant sublicenses under Article 5.1 to its Affiliates and third parties, including its collaborators and contractors, according to Article 6.2. BI shall promptly notify Sequana in writing of any such sublicenses to third parties. BI shall include in each permitted sublicense a provision requiring the sublicensee to make reports to BI, to keep and maintain records of sales made pursuant to such sublicense and to grant access to such records by Sequana's accounting firm to the same extent required of BI according to Article 4.9.

2. Sublicenses Granted by Sequana

. Sequana shall have the right to grant sublicenses under Article 5.2 to its Affiliates, and subject to Article 6.2 or Article 5.1.3 to third parties.

3. Sublicensing Generally

. Any sublicenses granted under this Article 5.3 shall be granted according to the following provisions: (i) any such sublicenses shall be subject to the exclusivity provisions of Article 6 and shall be nontransferable; (ii) any such sublicenses shall be fully consistent with the terms of this Agreement; and (iii) no sublicense granted under this Article 5.3 shall convey any rights greater than the rights held by the Party granting the license.

4. Sequana Product Distribution Rights

. If BI is developing a BI Product, and it is necessary for the successful marketing of such BI Product to distribute with it a Sequana Product based on the same Asthma Gene, in the event that BI has not exercised its Right of First Refusal in accordance with Article 5.1.3, Sequana will grant to BI solely in conjunction with the commercialization of such BI Product the worldwide, co- exclusive (with Sequana) right to distribute Sequana Products relating to such BI Products, on terms to be negotiated in good faith.

2. EXCLUSIVITY

1. Research Exclusivity.

1. After the Effective Date and until two (2) years after the end of the Research Term, subject to Sequana's existing agreements with third parties relating to asthma patient samples and such further agreements as the JRC may approve, neither Party will conduct any research in the Field with any other third party except as provided according to Article 6.2; provided, however, BI may collaborate with research and

development relating to Asthma with third parties, outside the Field. Notwithstanding the above, either party may conduct research and commercialization activities with respect to diseases other than Asthma, alone or with third parties.

2. Notwithstanding Article 6.1.1, in the event that Sequana materially breaches the Agreement, and BI terminates this Agreement pursuant to Section 12.2, BI may enter into collaborations with third parties to conduct research in the Field.
3. Notwithstanding Article 6.1.1, in the event that BI materially breaches the Agreement or terminates the Research prior to the end of the Research Term pursuant to Article 12.5, or Sequana terminates this Agreement pursuant to Section 12.2, Sequana may enter into collaborations with third parties to conduct research in the Field.

4. Third Party Contractors and Collaborators

. During the Research Term, either Party shall be permitted to engage in research collaborations or scientific contract work to conduct Research with third parties provided that each collaboration is approved by the JRC and subject to the confidentiality provisions according to Article 8. Such approval shall include and set forth: (i) the financial terms of the third party collaboration, including the amounts of funding to be provided by each of the Parties to the third party collaborator; (ii) provisions that rights within the Field developed or received by either Party in the course of the third party collaboration will be considered rights of that Party under this Agreement; and (iii) provisions for any grant of intellectual property rights to the third party.

2. DEVELOPMENT

1. **BI Development.** BI will be responsible, at its option, subject to Article 7.4 and at its expense, for all preclinical and clinical development of the BI Products. BI will use its reasonable commercial efforts to conduct all such preclinical and clinical development as promptly as practicable, to obtain worldwide regulatory approvals for the sale of BI Products and to market the BI Products in all markets where BI receives regulatory approval. BI will, to the extent available to BI, provide the necessary resources, expertise and support activities to carry out development of BI Products in an effective and timely manner and will be responsible for the costs involved. BI is solely responsible for the development of all BI Products, including: discovery, formulation, toxicology, pre-clinical efficacy and clinical trials registration with all governmental authorities, manufacturing, commercialization, sales and support. BI's failure to develop BI Products shall not be a failure by BI to fulfill any provision of this Agreement and shall not be construed to be a material breach of this Agreement according to Article 12.2, but shall be subject to Article 7.4 below.

2. Due Diligence Reports

. BI will provide to Sequana quarterly reports within thirty (30) days after the end of each BI calendar quarter describing, in reasonable detail, the progress of BI's development of BI Products.

3. Sequana's Development

. Sequana may, at its option and expense, provide the necessary resources, expertise and support activities to carry out development of Sequana Products. Sequana's failure to develop Sequana Products shall not be a failure by Sequana to fulfill any provision of this Agreement

and shall not be construed to be a material breach of this Agreement according to Article 12.2.

4. Termination of BI Licenses

. If BI fails to use diligent efforts to develop BI Products based on a particular Asthma Gene, in a Major Country, then BI's license and rights to develop and market BI Products based on the particular Asthma Gene in that Major Country shall terminate and Sequana shall acquire such rights and licenses under Article 5.2.3. Under such circumstances BI shall be entitled to receive royalties on any sales of the BI Product, in an amount which reflects BI's contribution to the development of such BI Product, if such contribution was significant and other than through the performance of the Research, and in any event in an amount no greater than that set forth in Article 4.2 for comparable products. As used herein, BI shall be deemed to have used diligent efforts with respect to the development of BI Products based on a particular Asthma Gene if BI devotes a commercially reasonable level of resources, budget and personnel with respect to such development. BI's rights and licenses shall be terminated under the provisions of this Article 7.4 only in the event that Sequana gives BI ninety (90) days notice of its intention to terminate such rights and licenses based on BI's failure to use diligent efforts, and only in the event that BI fails to initiate diligent efforts during such ninety (90) day period.

5. CONFIDENTIALITY

1. **Obligation of Non-Disclosure.** Any Confidential Information communicated by the Parties under this Agreement shall be maintained in strict confidence for a period of ten (10) years by the receiving Party and shall not be disclosed by either Party to any third party, except as provided in Articles 9.2 or 10 or the following sentence. Such Confidential Information may be disclosed by a Party to an Affiliate, or to a contractor or collaborator according to Article 6.2, or to a consultant retained by a Party or retained by an Affiliate or to any other person or entity permitted to be engaged pursuant to the terms of this Agreement, provided that such Affiliate, consultant, collaborator or other person or entity agrees to be bound substantially in writing to the same extent as the Parties under this Article 8.

2. Exceptions

. The provisions of Article 8.1 will apply to all Confidential Information except that which:

1. is known by the receiving Party prior to its disclosure; or,
2. becomes known to the receiving Party from a third party under no obligation of non-disclosure regarding such information; or,
3. is public knowledge or later becomes public knowledge through no act on the part of the receiving Party; or
4. is filed with an IND, NDA or PLA, or contained in a press release or published; as otherwise expressly authorized under this Agreement.

In order to be treated as Confidential Information for purposes of this Agreement, each Party shall use its best efforts to summarize in writing and deliver to the other Party within sixty (60) days following disclosure, any Confidential Information that is disclosed orally or visually and which the disclosing Party wishes the receiving Party to maintain under an obligation of non-disclosure under Article 8.1.

Nothing in this Article 8 shall prevent a Party from disclosing Confidential Information received hereunder or generated by such Party by itself to government authorities to the extent necessary, in the good faith opinion of such Party, to receive government permission to make, have made, use, or sell, BI Products or Sequana Products, as the case may be, or as required in connection with the exercise of the licenses granted under Article 5.

3. PUBLICATION

1. **Manuscripts.** Manuscripts intended for publication which relate to Research will require approval in writing by both Parties. Each Party will decide upon such approval within thirty (30) days of receipt by the Party of each manuscript, or sixty (60) days in the case of manuscripts that potentially relate to a Patent or Patent Application of a Party.

2. **Authorship**

. All publications or communications arising from the Research shall be authored pursuant to customary scientific protocol, as determined by the JRC. The order of authorship of all publications will be decided by the JRC.

3. **Publicity Review**

. BI and Sequana will jointly discuss and agree, based on the principles of Article 9.4, on any statement to the public regarding the execution and the subject matter of this Agreement, the Research to be conducted by the Parties under this Agreement, or any other aspect of this Agreement, except with respect to disclosures required by law or regulation.

4. **Standards**

. In the discussion and agreement referred to in Article 9.3, the principles observed by BI and Sequana will be accuracy, and the requirements for confidentiality under Article 8, the advantage a competitor of BI or Sequana may gain from any public or third party statements under Article 9.3, the requirements of disclosure under any securities laws or regulations of the United States, including those associated with public offerings, and the standards and customs in the pharmaceutical industry for such disclosures by companies comparable to BI and Sequana.

5. PROPERTY RIGHTS AND PATENTS

1. **Ownership.** Sequana Technology is owned by Sequana. BI Technology is owned by BI. Joint Results and Joint Patents shall be owned jointly by BI and Sequana. Inventorship and ownership of Joint Results and Joint Patents shall be determined in accordance with the laws of United States and New York, as applicable.

2. **Sequana Patents**

. Sequana Patents shall be prosecuted and maintained by Sequana in consultation with BI, at Sequana's expense and Sequana shall be responsible for the conduct of any interferences, re-examinations, reissues or oppositions relating thereto. Sequana shall keep BI informed of the Sequana Patent filings, prosecution and maintenance reasonably in advance of any relevant actions and deadlines to allow for review and consultation with BI. In the event that Sequana elects not to pursue prosecution or maintenance of any Patent or Patent Application related to Sequana Technology, Sequana shall give BI not less than sixty (60) days notice before any relevant deadline or any public disclosure and BI shall have the right to pursue, at its expense, prosecution of such Patent or Patent Application.

3. **BI Patents**

. BI Patents shall be prosecuted and maintained by BI, in consultation with Sequana, at BI's expense and BI shall be responsible for the conduct of any interferences, re-examinations, reissues or oppositions relating thereto. BI shall keep Sequana informed of the BI Patent filings, prosecution and maintenance reasonably in advance of any relevant actions and deadlines to allow for review and consultation with Sequana. In the event that BI elects not to pursue prosecution or maintenance of any Patent or Patent Application related to BI Technology, BI shall give Sequana not less than sixty (60) days notice before any relevant deadline or any public disclosure and Sequana shall have the right to pursue, at its expense, prosecution of such Patent or Patent Application.

4. Joint Patents

. Joint Patents shall be prosecuted and maintained by BI in consultation with Sequana, at BI's expense and BI shall be responsible for the conduct of any interferences, re-examinations, reissues or oppositions relating thereto. BI shall keep Sequana informed of the Joint Patent Filings, prosecution and maintenance reasonably in advance of any relevant actions and deadlines to allow for review and consultation with Sequana. In the event that BI elects not to pursue prosecution or maintenance of any Patent or Patent Application within the Joint Patents, BI shall give Sequana not less than sixty (60) days notice before any relevant deadline or any public disclosure and Sequana shall have the right to pursue, at its expense, prosecution of such Patent or Patent Application.

5. Cooperation Among Parties

. Each Party shall make available to the other its employees, agents or consultants as is reasonably necessary or appropriate to enable such Party to file, prosecute and maintain Patents and Patent Applications as permitted under this Agreement, including, without limitation, by providing the other the opportunity to fully review and comment on any documents as far in advance of filing dates as feasible which will be filed in any patent office, and providing the other copies of any documents that such party receives from such patent offices promptly after receipt, including notice of all interferences, reissues, re-examinations, oppositions or requests for patent term extensions.

6. Infringement of Patents by Third Parties

1. Notice

. Each party shall promptly notify the other in writing of any alleged or threatened infringement of the Sequana Patents, the BI Patents, or the Joint Patents of which it becomes aware.

2. Sequana Patents

. Sequana shall retain the sole right to bring, at Sequana's expense, an appropriate action against any person or entity infringing a Sequana Patent directly or contributorily. Any recovery so obtained shall be paid to Sequana. In the event that an alleged infringer is engaged in the marketing or commercialization of a product that competes with a BI Product or Compound in a country in which BI retains marketing or commercialization rights, and Sequana is unable or unwilling to sue the alleged infringer within one hundred twenty (120) days of the date of notice of such infringement or thirty (30) days before the time limit, if any, set forth in the appropriate laws and regulations for the filing of such actions, whichever comes first, BI may, but shall not be required to, prosecute the alleged infringement or threatened infringement. In such event, BI shall act in its own name and at its own expense, and

Sequana shall cooperate fully and completely with BI, at the expense of BI. In the event of such action by BI, any recovery obtained shall be paid to BI.

3. BI Patents

. BI shall retain the sole right to bring, at BI's expense, an appropriate action against any person or entity infringing a BI Patent directly or contributorily. Any recovery so obtained shall be paid to BI. In the event that an alleged infringer is engaged in the marketing or commercialization of a product that competes with a Sequana Product or Compound in a country in which Sequana retains marketing or commercialization rights, and BI is unable or unwilling to sue the alleged infringer within one hundred twenty (120) days of the date of notice of such infringement, or thirty (30) days before the time limit, if any, set forth in the appropriate laws and regulations for the filing of such actions, whichever comes first, Sequana may, but shall not be required to, prosecute the alleged infringement or threatened infringement. In such event, Sequana shall act in its own name and at its own expense, and BI shall cooperate fully and completely with Sequana, at the expense of Sequana. In the event of such action by Sequana, any recovery obtained be to Sequana.

4. Joint Patents

. In the event that the Parties become aware of any alleged or threatened infringement of the Joint Patents, the Parties shall confer and may agree jointly to prosecute such infringement. If the Parties do not agree on whether or how to proceed with enforcement activity within:

1. ninety (90) days following the notice of alleged infringement or,
2. thirty (30) days before the time limit, if any, set forth in the appropriate laws and regulations for the filing of such actions, whichever comes first, then either Party may act in its own name to commence litigation with respect to the alleged or threatened infringement.

In the event a Party brings an infringement action, the other Party shall cooperate fully and completely. Neither Party shall have the right to settle any patent infringement litigation under this Article 10.6.4, in a manner that diminishes the rights or interests of the other Party without the consent of such other Party. The costs of any litigation commenced pursuant to this Article 10.6.4, including attorneys' fees and expenses, shall be borne equally by the Parties if joint prosecution was agreed upon, with such costs to be accounted for in equalizing payments to be made on a quarterly basis, or shall be borne by the single Party who prosecutes the infringement. Only out- of-pocket costs shall be accounted for and reimbursed under this Article 10.6.4, without an allocation for internal resources devoted to litigation. Except as otherwise agreed to by the Parties as part of a cost sharing arrangement, any recovery realized as a result of such litigation shall be shared equally by the Parties if joint prosecution was agreed upon or shall be the sole property of the single Party prosecuting the infringement.

7. INDEMNITY AND INSURANCE

1. BI. BI agrees to indemnify, defend and hold Sequana, its Affiliates and Sublicensees and their respective directors, officers, employees and agents (the "BI Indemnitees") harmless from and against any losses, costs, claims, damages, liabilities or expense (including reasonable attorneys' fees and court and other expenses of litigation) (collectively, "Liabilities") arising out of or in connection with third party claims relating to (i) any BI Products or Sequana Products developed, manufactured, used sold or otherwise distributed by or on behalf of BI,

its Affiliates, sublicensees or other designees pursuant to Article 5.1 herein (including, without limitation, product liability claims), (ii) BI and its Affiliate(s) performance of the Research, or (iii) any breach by BI of its representations and warranties made in this Agreement, except, in each case, to the extent such Liabilities resulted from the gross negligence (including grossly negligent acts or omissions) or intentional misconduct of Sequana.

2. Sequana

. Sequana agrees to indemnify, defend and hold BI, its Affiliates and Sublicensees and their respective directors, officers, employees and agents (the "BI Indemnitees") harmless from and against any losses, costs, claims, damages, liabilities or expense (including reasonable attorneys' fees and court and other expenses of litigation) (collectively, "Liabilities") arising out of or in connection with third party claims relating to (i) any Sequana Products developed, manufactured, used, sold or otherwise distributed by or on behalf of Sequana, its Affiliates, sublicensees or other designees pursuant to Article 5.2 herein (including, without limitation, product liability claims), (ii) Sequana and its Affiliate(s) performance of the Research, or (iii) any breach by Sequana of its representations and warranties made in this Agreement, except, in each case, to the extent such Liabilities resulted from the gross negligence (including grossly negligent acts or omissions) or intentional misconduct of BI.

3. Procedure

. In the event that any Indemnitee intends to claim indemnification under this Article 11 it shall promptly notify the other party in writing of such alleged Liability. The indemnifying party shall have the right to control the defense thereof with counsel of its choice; provided, however, that arty Indemnitee shall have the right to retain its own counsel at its own expense, for any reason, including if representation of any Indemnitee by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such Indemnitee and any other party represented by such counsel in such proceeding. The affected Indemnitees shall cooperate with the indemnifying party and its legal representatives in the investigation of any action, claim or liability covered by this Article 11. The indemnified party shall not, except at its own cost, voluntarily make any payment or incur any expense with respect to any claim or suit without the prior written consent of the indemnifying party, which such party shall not be required to give.

4. Insurance

. BI will maintain in force at its sole cost and expense a general liability insurance policy adequate to cover its indemnification obligations hereunder.

5. TERMINATION

1. Termination by Mutual Agreement. By mutual agreement, the Parties may terminate this Agreement at any time.

2. Termination for Material Breach

. Sequana or BI may terminate this Agreement upon ninety (90) days written notice setting forth in reasonable detail the specifics of the material breach, provided however, that within such ninety (90) day period, the Party in material breach may cure the deficiency or the Parties may agree on a settlement in which case the termination by Sequana or BI shall not occur. Disputes subject to resolution pursuant to Articles 3.5.1 and 3.5.2 shall not be the basis of any material breach under this Article. Notwithstanding the above, except in the case where there is a bona fide dispute over an amount due which the parties are attempting to

resolve, in the case of a failure to pay any amount due under this Agreement, the failure to pay any such amount within thirty (30) days after written notice of such failure shall be a material breach hereof.

3. Termination for Bankruptcy

. Either Party may immediately terminate this Agreement by giving written notice to the other Party in the event of (i) the liquidation of the other Party, (ii) the appointment of a receiver or similar officer for the other Party, (iii) an assignment by the other Party for the benefit of all or substantially all of its creditors, (iv) entry by the other Party into an agreement for the composition, extension, or readjustment of all or substantially all of its obligations, or (v) the filing of a meritorious petition in bankruptcy by or against the other Party under any bankruptcy or debtors' law for this relief or reorganization which, in the case of such a petition filed against the other Party, is not dismissed within sixty (60) days.

4. Effects of Termination for Breach or Bankruptcy

. Termination by Sequana or BI under Article 12.2 or 12.3 shall not affect the rights of the terminating Party to take any other legal action (including any action for damages arising from a material breach). In the event of such termination:

1. any licenses granted to the breaching or bankrupt Party under Article 5 with respect to Sequana Technology, BI Technology or Joint Results and Joint Patents conceived or otherwise developed prior to the effective date of termination will terminate; and
2. any licenses granted to the non-breaching or non-bankrupt Party under Article 5 prior to the effective date of termination will continue in effect at the option of the non-breaching or non-bankrupt Party, as long as the non-breaching or non-bankrupt Party abides by the terms of the license and the surviving provisions of this Agreement, including but not limited to the obligation to pay milestone payments and royalties under Article 4, and subject to later termination under the terms of this Article 12. Any Court awarded damages granted to BI pursuant to this Article 12.4, arising from material breach or bankruptcy of Sequana, may be deducted from milestone and/or royalty payments which may subsequently be due to Sequana. In addition, if BI is the terminating non-breaching or non-bankrupt Party, then BI's surviving licenses shall continue to be subject to reversion to Sequana under Article 7.4. In the case of a bankruptcy, the Parties acknowledge that 11 U.S.C. 365 sets forth certain rights and obligations of the Parties.

3. BI Termination

1. Following the third anniversary of the Effective Date, BI may, at its discretion, terminate this Agreement including the licenses granted herein with six (6) months notice to Sequana. In the event of any such termination, at Sequana's request, BI shall assign BI's entire interest in the Joint Results and Joint Patents to Sequana, and grant Sequana an exclusive license, with the right to sublicense, under the BI Technology to make, have made, use and sell Compounds and BI Products. If Sequana commercializes products under such a license, Sequana shall pay to BI royalties in an amount which reflects BI's contribution to the development of such BI Product, if such contribution was significant and other than through the performance of the Research, and in any event in an amount no greater than that set forth in Article 4.2 for comparable products.

2. Following the third anniversary of the Effective Date, if Sequana has identified at least one Asthma Gene through the Research, BI may elect to terminate the Research with six (6) months notice to Sequana. In the event of any such termination prior to the fifth anniversary of the Effective Date, BI shall pay to Sequana a "wind-down" payment equal to fifty percent (50%) of the funding budgeted for the Research in the preceding twelve (12) month period. In addition, the licenses in effect on the effective date of such termination shall remain in effect with respect to any Asthma Genes, Compounds or BI Products with respect to which BI is then diligently pursuing development and/or commercialization, subject to the terms and conditions of this Agreement.

3. Change of Control

. In the event that a pharmaceutical company succeeds to all or substantially all of the business or assets of Sequana to which this Agreement relates, whether by sale, merger, operation of law or otherwise, prior to the end of the Research Term, BI may terminate the Research with thirty (30) days notice to Sequana. Notwithstanding such termination, BI's other obligations will continue in effect, subject to the terms and conditions of this Agreement. As used in this Article 12.6, "pharmaceutical company" shall mean a company whose primary business is the marketing and sale of human therapeutic products. In addition, the licenses in effect on the effective date of termination shall remain in effect with respect to any Asthma Genes, Compounds or BI Products with respect to which BI is then diligently pursuing development and/or commercialization, subject to the terms and conditions of this Agreement.

4. Survival

. Articles 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 7.4, 8, 9, 10, 11 and 16 shall survive any termination or expiration of this Agreement (excluding expiration according to Article 12.8).

5. End of Agreement

. This Agreement and all obligations of both Parties hereunder, unless earlier terminated according to this Article 12, shall expire concurrently with the expiration of the last- to-expire royalty obligation hereunder. Following such an expiration, BI shall have a non-exclusive, royalty-free, fully-paid license under the Sequana Technology to make, have made, and use Compounds and to make, have made, use and sell BI Products, and Sequana shall have a non-exclusive, royalty-free, fully- paid licensed under the BI Technology to make, have made, use sell Sequana Products.

5. ASSIGNMENT

1. Assignment. Neither Party may assign, delegate or otherwise transfer any of its rights or obligations under this Agreement to a third party without the prior written consent of the other Party, which consent will not be unreasonably withheld; provided, however, that each Party may assign this Agreement without such consent to an entity that succeeds to all or substantially all of its business or assets to which this Agreement relates, whether by sale, merger, operation of law or otherwise. Subject to the foregoing, this Agreement shall be binding upon the Parties and their respective successors and assigns.

2. Assignment to Affiliates

. Notwithstanding the foregoing, BI will be entitled to exercise any or all of its rights and to perform any or all of its duties under this Agreement through one or more Affiliates on the

condition that BI will guarantee due and satisfactory performance by any such Affiliate of any duty delegated to it.

3. REPRESENTATIONS AND WARRANTIES

1. Mutual Representations and Warranties. Each Party hereby represents and warrants:

1. Corporate Power

. Such Party is duly organized and validly existing under the laws of the state of its incorporation and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof.

2. Due Authorization

. Such Party is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder.

3. Binding Agreement

. This Agreement is a legal and valid obligation binding upon it and is enforceable in accordance with its terms. The execution, delivery and performance of this Agreement by such Party does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any law or regulation of any court, governmental body or administrative or other agency having authority over it.

4. Sequana Representations and Warranties

. Sequana hereby represents and warrants that to the best of its knowledge as of the Effective Date that there are no issued third party patents or pending patent applications which would be infringed by BI's practice of the Sequana Technology existing as of the Effective Date, pursuant to the licenses granted herein.

5. Disclaimer

. BI and Sequana specifically disclaim any guarantee that the Research will be successful, in whole or in part. The failure of the Parties to successfully clone Asthma Genes will not constitute a breach of any representation or warranty or other obligation under this Agreement. Neither BI nor Sequana makes any representation or warranty or guaranty that the Research will be successful. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, SEQUANA AND BI AND THEIR RESPECTIVE AFFILIATES MAKE NO REPRESENTATIONS AND EXTEND NO WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE SEQUANA TECHNOLOGY OR BI TECHNOLOGY, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

2. NOTICES

1. Notices. Any notice or other communication required or permitted under this Agreement will be in writing and will be deemed given as of the date it is: (i) delivered by hand; or (ii) mailed, postage prepaid, first class, certified mail, return-receipt requested, to the Party at the address listed below; or at an updated address; or (iii) sent, shipping prepaid, return- receipt requested, by overnight delivery service (e.g., DHL, FedEx), to the Party at the address listed below; or at such other address as the applicable Party may indicate by notice hereunder.

To Sequana:	Sequana Therapeutics, Inc.
	11099 North Torrey Pines Road, Suite 160
	La Jolla, California 92037
	Attn: Chief Executive Officer
To BI:	Boehringer Ingelheim International GmbH
	D-55216 Ingelheim am Rhein
	Attn: Corporate Licensing
	cc: Legal Department

2. MISCELLANEOUS

1. **Governing Law; Venue.** The construction and performance of this Agreement will be governed by the laws of the State of New York, without reference to conflicts of laws principles. The exclusive venue of any disputes arising under this Agreement which are not settled by binding arbitration pursuant to Article 3.5.2 shall be in the U.S. District Court for the Southern District of New York, and the Parties hereby consent to the personal jurisdiction of such court.

2. **Non-Use of Name**

. Neither Party will, without the prior written consent of the other Party use in advertising, publicity or otherwise, the name of any employee or agent, any tradename, trademark or simulation thereof owned by the other Party, or represent, either directly or indirectly, that any product or service of the other Party is a product or service of the representing Party or that it is made in accordance with or utilized the information or documents of the other Party, except as may be required by law. Notwithstanding the above, Sequana may disclose the basic provisions of this Agreement for the purpose of obtaining additional funding or engaging in merger discussions. Any such disclosure shall be subject to the confidentiality provisions as set forth in Article 8.

3. **Waiver**

. The failure of a Party in any instance to insist upon the strict performance of certain terms of this Agreement will not be construed to be a waiver or relinquishment of any of the remaining terms of this Agreement, either at the time of the Party's failure to insist upon strict performance or at any time in the future, and such remaining terms will continue in full force and effect.

4. Severance

. Each clause of the Agreement is a distinct and severable clause and if any clause is deemed illegal, void or unenforceable, the validity, legality or enforceability of any other clause or portion of this Agreement will not be affected thereby.

5. Titles

. All titles and Article headings contained in this Agreement are inserted only as a matter of convenience and reference. They do not define, limit, extend or describe the scope of this Agreement or the intent of any of its provisions.

6. Compliance with Agreement and Laws

. Each Party shall comply in all material respects with the terms of this Agreement and with all laws, rules and regulations applicable to the discovery, development, manufacture, distribution, import and export and sale of pharmaceutical products pursuant to this Agreement.

7. No Other Products

. Except as otherwise agreed or specifically provided in the terms of this Agreement, neither BI nor its Affiliates nor sublicensees shall commercialize any Compound other than as a BI Product, except in accordance with this Agreement.

8. Limitation of Liability

. In no event shall either Party be liable to the other Party for any lost profits, cost of procurement of substitute goods or services, or other indirect, special, incidental or consequential damages, however caused and on any theory of liability, arising out of or related to this Agreement. The foregoing will not affect either Party's liability, if any, with respect to contribution or indemnity for third party claims for personal injury, death, or physical damage to property.

[THIS SPACE INTENTIONALLY LEFT BLANK]

9. Entire Agreement

. This Agreement together with its Exhibits contain the entire agreement and understanding between the Parties as to its subject matter. It merges all prior discussions between the Parties and neither Party will be bound by conditions, definitions, warranties, understandings, or representations concerning such subject matter except as provided in this Agreement. This Agreement can only be modified by written agreement duly signed by persons authorized to sign agreements on behalf of both BI and Sequana.

In Witness Whereof

; the Parties hereto set their hands to this Agreement.

Sequana Therapeutics, Inc.

By: /s/ Kevin J. Kinsella

Name: Kevin J. Kinsella

Title: Chief Executive Officer

Date: _____

Boehringer Ingelheim International GmbH

By: /s/ Muller /s/ D. G. Mitchard

Name: Muller Mitchard

Title: Authorized figuratives

Date: _____

By: _____

Name: _____

Title: _____

Date: _____

Exhibit A

Sequana

Therapeutics

Boehringer

Ingelheim

Isolation of Asthma & Atopy

Susceptibility Genes

Research Plan

1995-1996

Outline Research Proposal

1995-1996

Strategic Overview

Bronchial hyperresponsiveness and atopic asthma are polygenic conditions resulting from complex interactions of genes and environmental agents. Sequana Therapeutics has undertaken to isolate and characterize genes involved in asthma etiology. The current asthma program is focused on identifying genes contributing to bronchial hyperresponsiveness (BHR) and frank asthma in humans. Several large unique asthmatic patient populations have been ascertained in this effort, and a complete genome scan has led to identification of at least two novel genetic loci influencing BHR/frank asthma. In late 1995 we will augment this ongoing program using several complementary patient populations selected for allergic asthma, or atopy.

The research plan for 1995 and 1996 has three primary foci:

1. Fine genetic mapping and mutation detection in the two BHR loci that have been identified and validated;
2. Additional genome-wide screening for BHR and frank asthma susceptibility loci, followed by verification of linkage and linkage disequilibrium in independent patient samples;
3. Genome-scan and candidate gene evaluation of atopy genes in genetically informative samples of phenotypically and ethnically matched atopic families.

Current Progress

Patient Collection: Airway Hyperreactivity

Tristan da Cunha

. To date, Sequana has collected BHR, frank asthma, and atopy-related phenotypes from four independent samples. The cornerstone of these samples is entire population of the island of Tristan da Cunha. Tristan da Cunha, a small South Atlantic island situated between Rio de Janeiro, Brazil and Capetown, South Africa, is inhabited by 282 living descendants of seven British, American, Italian, and Dutch founders. Current inhabitants reflect ten generations of intense inbreeding, which has resulted in kinship resemblances of at least first cousin levels for all individuals. This degree of inbreeding, coupled with at least one recorded case of asthma in the island founders, has led to a population prevalence of 20% -50% for frank asthma, BHR, and allergic response. The founder effect in this population renders it the most unique and powerful asthma patient resource in the world.

DNA and asthma and atopy phenotypes have been obtained from nearly all (269/282) living inhabitants of Tristan da Cunha. The primary phenotypes for analysis include lifetime history of asthma, age of asthma onset, methacholine challenge response, smoking history, and skin prick tests for twelve common allergens.

Replication Samples: Toronto

. A major emphasis of our research strategy for identifying novel genetic loci is to validate suggestive linkages by replication with independent patient samples. Accordingly, Sequana has established two cohorts of sib-pair samples for replication with Tristan da Cunha. The first comprises 110 Caucasian sib pairs drawn from Toronto, Ontario, Canada. Toronto sib-pairs were ascertained based on the following criteria: (i) proband having methacholine PC₂₀ < 4 mg/ml; (ii) availability of at least one sibling of the proband, either affected or unaffected; (iii) at least one living parent from whom DNA could be obtained. Phenotypes obtained from this cohort include: Asthma history questionnaire, methacholine challenge test, total IgE level, skin prick responses to 10 common allergens, and smoking history.

QIMR

. The second replication sample consists of 221 dizygotic twin pairs, obtained via a collaboration with the Queensland Institute of Medical Research (QIMR) in Brisbane, Australia. This sample was drawn from a registry of over 4000 twin pairs, with ascertainment based on positive history of wheezing followed by physician diagnosis of asthma or atopy. Available phenotypes include histamine challenge responses, physician diagnosis of asthma and atopy, skin prick responses to twelve common allergens, total IgE, smoking history and other respiratory-related environmental exposures, and over 200 additional anthropometric, demographic, and medical variables obtained by questionnaire and physician interview.

Chinese Family

. BHR, asthma, and atopy phenotypes also have been obtained from a large family of 174 Chinese individuals living in Toronto, Ontario. This family was identified based on a high proportion of asthmatics (> 25%). DNA has been extracted from all individuals. This family is not used as a replication of Tristan da Cunha due to ethnic differences; rather, it is employed to evaluate mutation ages and variability among ethnicities.

Linkage Analysts

Genome Scan

. A 20 cM genome scan of more than 240 microsatellite markers has been completed on the Tristan da Cunha population. Linkage analyses of these data have yielded 11 possible linkages for airway hyperreactivity at a probability level of 51% or less. Many of these are likely to be false positives due to random statistical fluctuation; however, two linkages exceed the 0.5% level, and two others occur with probability less than 0.01%. These latter findings correspond to LOD scores greater than 4.0. These loci are henceforth denoted WHZ1 and WHZ2.

WHZ1 Saturation

. The chromosomal regions surrounding the initial WHZ1 and WHZ2 markers have been saturated with additional polymorphic genetic markers. Most of the work in this saturation has focused on WHZ1, owing to stronger initial evidence for linkage (probability = .00004) and an attractive candidate gene very near the linked marker. Saturation marker mapping of WHZ2 is ongoing. The resulting genetic map of WHZ1 includes markers spaced in intervals no greater than 5 cM across a possible linked region of approximately 30 cM. Sib-pair and affected pedigree member linkage analyses of the saturation markers yielded confirmatory evidence for linkage and refined the genetic

interval to 12 cM. Eight additional markers spanning the 12 cM region have been identified and developed. These are shown below, with genetic distances by the Tristan da Cunha population.

Replication

. The saturation markers have been genotyped in the Toronto and QIMR sib-pair samples. Sib-pair analyses of both samples yielded significant evidence for linkage to multiple markers in this region ($p < .05$). Control markers located in unlinked regions of the genome provided appropriate negative evidence for linkage. In all samples, WHZ1 linkage was obtained with frank asthma and positive airway hyperreactivity, but not for available measures of atopy (skin prick tests in all samples; IgE in Toronto and QIMR). This replication in three independent samples represents the strongest evidence ever compiled for an asthma susceptibility gene.

WHZ1a candidate gene

. It is noteworthy that the strongest evidence for linkage in the Toronto sib-pair and QIMR samples is not obtained at the initial marker identified in Tristan da Cunha (marker "D" shown above). Rather, the most significant marker is situated approximately 1.3 cM proximal, shown as marker "C" above. Furthermore, the QIMR sample, which is our largest outbred sib-pair sample, yields a further refined interval for linkage, spanning approximately 3.6 cM on the map above (markers "B" to "E"). This interval contains an attractive candidate gene for airway hyperreactivity, which we denote WHZ1a. This candidate gene is less than 0.5 cM from marker "C".

Physical Mapping and Sequencing

Cloning of Genomic Regions

. In the physical mapping core group at Sequana, yeast artificial chromosomes (YACS) containing genetic markers linked to each asthma locus are identified by routine PCR methods. A contig of overlapping clones is then assembled using sequence tagged sites (STSs) to establish overlaps between the clones, fluorescence in situ hybridization (FISH) to assay for chimerism, and pulse field gel electrophoresis (PFGE) to size the clones. A YAC contig for the WHZ1 asthma locus (shown below) has been completed. Seven known genes are in this contig. In specific regions of interest within each YAC contig, for example near a candidate gene, cosmid contigs are also being assembled. A cosmid contig across the WHZ1a candidate gene within the WHZ1 region is 80% complete.

Identification of New Genetic Markers

. Polymorphic microsatellites (CA)_n repeats have been identified from both YACS and cosmids in the WHZ1 region. These markers have contributed to the genetic refinement of the WHZ1 interval. A novel (CA)_n repeat polymorphism has been identified in a WHZ1a intron.

Mutation Detection

. Initial screening of mutations in WHZ1a is presently underway. Mutation screening of patient DNAs is conducted by several complementary methods:

1. Single stranded conformational polymorphism (SSCP) evaluation is used to detect polymorphism in the coding regions of WHZ1a. This method lends itself to large scale, fast analysis of several candidate genes concurrently.
2. PCR and sequencing of exons of patient DNAs and controls. This provides a very detailed analysis of a particular segment of sequence and can be used to reveal the exact nature of a polymorphism, or mutation identified by methods like SSCP.
3. RT-PCR and Northern blotting are underway to verify the size of candidate gene transcripts and level of expression in available tissues. Analysis of splice variants will also be undertaken.

Future Activities

Overview

. Four major areas of emphasis are targeted for the asthma program in 1995-1996. These include:

- (i) Gene verification and mutation detection of WHZ1. Although WHZ1a is an attractive candidate gene, there are at least 6 other genes in the region. Primary effort will be devoted to establishing the asthma susceptibility gene(s) in the WHZ1 region and identifying mutations in this gene. This involves both continued physical mapping of WHZ1a and physically locating and screening other genes in cloned regions. WHZ1a polymorphisms/mutations will be characterized by the end of September 1995.
- (ii) Marker development, linkage replication, and gene localization of WHZ2. The same approach taken in WHZ1 will be applied to the second strong linkage arising in Tristan da Cunha, WHZ2. This includes construction of a fine genetic map of less than 5 cM, developing

additional markers if necessary, replicating linkage and linkage disequilibrium across the markers, determining all known genes and ESTs, and physically mapping the hyperreactivity gene in the region. Marker development and linkage replication will be completed in 1995. Gene localization will begin in 1995 and continue into 1996.

(iii) Identification of other airway hyperreactivity loci. As described above, there are a number of additional asthma loci showing suggestive evidence for linkage. These chromosome regions will be evaluated genetically by replication and by marker development for saturation. Furthermore, a genome scan is planned for the QIMR sample in order to complement the inbred Tristan da Cunha population. The follow-up analyses of suggestive linkages and the 20 cM scan of QIMR will continue through 1996. The QIMR sample numbers can easily be expanded.

(iv) Development of an atopy program. Characterizing genes predisposing to atopy versus asthma is crucial to the research program and to subsequent development of diagnostic and therapeutic agents. Access to additional patient populations for genome scanning and linkage replication is to be established at present. The cornerstone of this effort will be a collaboration with Dr. David Marsh of Johns Hopkins University. Dr. Marsh is a world leader in allergic asthma and has collected a very large number of families for identification of atopy genes. The samples of Dr. Marsh, in combination with our QIMR twin sample, provide a complete atopy program, allowing sufficient resources for linkage replication, fine mapping, and mutation characterization. The programme would follow the route of a genome scan with special emphasis on candidate gene regions.

Specific Activities

. The Sequana research program is split into five "core" areas, consisting of (1) DNA Collection; (2) Genetic Mapping; (3) Physical Mapping; (4) DNA Sequencing and Mutation Analysis; (5) Gene Characterization and Assay Development. Specific activities in each of these core areas are described below.

DNA Collection

10. Acquire additional patient samples for fine mapping BHR genes, including a large (> 2000 individuals) case-control sample for allelic association and epidemiological studies. The Sharp clinic in San Diego is the most likely resource for this sample.
11. Acquire atopy samples from Dr. David Marsh, including 400 Amish sib pairs and 500 patients in inbred families from Barbados.

Genetic Mapping

12. Conduct linkage disequilibrium analyses of WHZ1 region in all patient populations.
13. Develop markers for saturating WHZ2 region and all suggestive linkages arising from Tristan da Cunha.
14. Genotype Tristan da Cunha, Toronto sibling pairs, and QIMR twin samples for all saturation markers. Follow-up validated findings with case-control association analyses.
15. Conduct 20 cM genome scan of QIMR sample for additional loci.
16. Replicate these findings in Tristan da Cunha and Toronto sib pairs.

Physical Mapping and Sequencing

17. Complete cosmid contig of WHZ1 region (80% complete at present).

- Identify additional markers in WHZ1 from YACs. Genotype if polymorphic.
- Identify novel genes in the WHZ1 region by exon trapping and cDNA selection as necessary. Perform large scale sequencing (of very limited regions) and identify genes by sequence features.
- Sample-wide variant assessment and correlation with genetic and phenotype data. When the exact sequence of polymorphisms or potential mutations of key patients have been determined, we will assay a much wider selection of patient groups by methods such as allele specific oligonucleotide (ASO) hybridization. This allows assessment of every variant as a genetic trait within the group, and will clarify which variants in which candidate genes are associated with disease.

Gene Characterization

- BI will be largely responsible for gene characterisation and functional assay development.
- Sequana may use the two hybrid system and other yeast genetic techniques to probe the function of any unknown gene, with mutations linked to asthma or associated phenotypes, uncovered by the study.
- Sequana will use its Bioinformatics capability to annotate and integrate all the information obtained about the genes found. This will include the construction of an asthma candidate gene data base and, as appropriate, access to the public databases including three dimensional protein structure prediction programmes.

Exhibit B

Asthma Patient Recruitment

Sequana has entered into agreements with the following groups prior to the Effective Date to acquire patient samples for the study of asthma.

Signed Agreements	Families	Fixed Cost	Variable Cost	Total Cost
Fudan University, PRC	100	\$ 15,000	\$ 40,000	\$ 55,000
RenJi Hospital, PRC	125	0	25,000	25,000

Shanghai 1st Hospital, PRC	125	0	25,000	25,000
Queensland Inst. Med. Res.	220	121,000	121,000	<u>242,000</u>
				\$347,000

Amount to be Negotiated and Approved by the JRC

SLRI (China, Toronto)	100	100,000	0	\$100,000
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COLLABORATIVE RESEARCH AGREEMENT

between

SEQUANA THERAPEUTICS

and

**BOEHRINGER INGELHEIM
INTERNATIONAL GmbH**

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EXECUTIVE EMPLOYMENT AGREEMENT

This Executive Employment Agreement ("Agreement") is entered into as of the 14th day of December, 2000 (the "Effective Date"), by and between Douglas Altschuler ("Executive") and Axys Pharmaceuticals, Inc. (the "Company").

WHEREAS

, the Company desires to employ Executive to provide personal services to the Company, and wishes to provide Executive with certain compensation and benefits in return for Executive's services; and

WHEREAS

, Executive wishes to be employed by the Company and provide personal services to the Company in return for certain compensation and benefits.

NOW, THEREFORE,

in consideration of the mutual promises and covenants contained herein, it is hereby agreed by and between the parties hereto as follows:

**I.
DEFINITIONS**

For purposes of the, Agreement, the following terms are defined as follows:

1. "**Board**" means the Board of Directors of the Company.
2. "**Cause**" means:
 - a. Executive's intentional action or intentional failure to act that was performed in bad faith and to the material detriment of the business of the Company;
 - b. Executive's intentional refusal or intentional failure to act in accordance with any lawful and proper direction or order of the Board or the appropriate individual to whom Executive reports;
 - c. Executive's willful and habitual neglect of Executive's duties of employment;
 - d. Executive's violation of any noncompetition or noninterference agreement that Executive has entered into with the Company; or
 - e. Executive's conviction of a felony crime involving moral turpitude;

provided, however,

that if any of the foregoing events under clauses (a), (b), (c) or (d) above is capable of being cured, the Company shall provide written notice to Executive describing the nature of such event and Executive shall thereafter have ten (10) business days to cure such event.

6. "**Change in Control**" means the occurrence of any of the following events:
 - a. a dissolution, liquidation or sale of all or substantially all of the assets of the Company;
 - b. a merger or consolidation in which the Company is not the surviving corporation;
 - c. a reverse merger in which the Company is the surviving corporation but shares outstanding immediately preceding the merger are converted by virtue of the merger into other property, whether in the form of securities, cash or otherwise; or
 - d. the acquisition by any person, entity or group within the meaning of Section 13(d) or 14(d) of the Exchange Act, or any comparable successor provisions (excluding any employee benefit plan, or related trust, sponsored or maintained by the Company or any affiliate of the Company) of the beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act, or comparable successor rule) of securities of the Company representing at least fifty percent (50%) of the combined voting power entitled to vote in the election of directors.
5. "**Company**" means Axys Pharmaceuticals, Inc. or, following a Change in Control, the surviving entity resulting from such transaction.
6. "**Covered Termination**" means (i) an Involuntary Termination Without Cause that occurs at any time, without regard to a Change in Control, or (ii) a voluntary termination for Good Reason that occurs on or after the effective date of a Change in Control.
7. "**Exchange Act**" means the Securities Exchange Act of 1934, as amended.
8. "**Good Reason**" means that any of the following are undertaken without Executive's express written consent.
 - a. the assignment to Executive of any duties or responsibilities that results in any diminution or adverse change of Executive's position, status, circumstances of employment or scope of responsibilities;
 - b. a reduction by the Company in Executive's annual base salary as in effect on the effective date of the Change in Control;
 - c. the taking of any action by the Company that would adversely affect Executive's participation in, or reduce Executive's benefits under, the Company's benefit plans (including equity benefits) as of the effective date of the Change in Control, except to the extent the benefits of all other executives of the Company are similarly reduced;
 - d. a relocation of Executive's principal office to a location more than forty (40) miles from the location at which Executive was performing Executive's duties as of the effective date of the Change in Control, except for required travel by Executive on the Company's business;
 - e. any material breach by the Company of any provision of this Agreement; or
 - f. any failure by the Company to obtain the assumption of this Agreement by any successor or assign of the Company.

7. **"Involuntary Termination Without Cause"** means Executive's dismissal or discharge other than for Cause. The termination of Executive's employment as a result of Executive's death or disability will not be deemed to be an Involuntary Termination Without Cause.

III.

EMPLOYMENT BY THE COMPANY

1. Position and Duties.

Subject to terms set forth herein, the Company agrees to employ Executive in the position of Vice President, General Counsel and Assistant Secretary and Executive hereby accepts such employment. Executive shall serve in an executive capacity and shall perform such duties as are customarily associated with the position of Vice President, General Counsel and Assistant Secretary and such other duties as are assigned to Executive by the Company's Chief Executive Officer. Executive will report to the Chief Executive Officer. During the term of Executive's employment with the Company, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention (except for vacation periods as set forth herein and reasonable periods of illness or other incapacities permitted by the Company's general employment policies or as otherwise set forth in this Agreement) to the business of the Company.

IV. Employment at Will.

Both the Company and Executive shall have the right to terminate Executive's employment with the Company at any time, with or without Cause, and without prior notice. If Executive's employment with the Company is terminated, Executive will be eligible to receive severance benefits to the extent provided in this Agreement.

V. Employment Policies.

The employment relationship between the parties shall also be governed by the, general employment policies and practices of the Company, including those relating to protection of confidential information and assignment of inventions, except that when the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

VI.

COMPENSATION

1. Base Salary.

Executive shall receive for services to be rendered hereunder an annual base salary of \$230,000.00, payable on the regular payroll dates of the Company, subject to increase in the sole discretion of the Board of Directors.

II. Annual Bonus.

Executive will be eligible for an annual bonus up to twenty-five percent (25%) of Executive's then current annual base salary upon achievement of reasonable goals specified by the Board (the "Target Bonus"). Such goals shall be set forth in writing by the Board prior to the close of the first quarter of each fiscal year of the Company, with fifty percent (50%) of such goals to be dependent on Executive's individual performance and fifty percent (50%) of such goals to be dependent on the Company's performance.

III. Standard Company Benefits.

Executive shall be entitled to all rights and benefits for which Executive is eligible under the terms and conditions of the standard Company benefits and compensation practices that may be in effect from time to time and are provided by the Company to its executive employees generally.

IV. Stock Options.

Executive has been granted options to purchase 70,000 shares of the Company's common stock effective as of the Effective Date pursuant to the terms and conditions of the Company's stock option plan and form stock

option agreement thereunder, which options shall constitute incentive stock options within the meaning of Section 422(b) of the Internal Revenue Code to the extent permissible under applicable law. Upon the earlier of (i) a Change of Control or (ii) March 1, 2001, Executive shall be granted additional options to purchase 30,000 shares of the Company's common stock effective as of such date pursuant to the terms and conditions of the Company's stock option plan and form stock option agreement thereunder, which options shall constitute incentive stock options within the meaning of Section 422(b) of the Internal Revenue Code to the extent permissible under applicable law.

V.

SEVERANCE AND CHANGE IN CONTROL BENEFITS

1. Severance Benefits.

If Executive's employment terminates due to a Covered Termination after the date of execution of this Agreement, Executive shall receive any annual base salary and bonus compensation that has accrued but is unpaid as of the date of such Covered Termination. Within thirty (30) days following the date on which the Release described in Section 4.4 below becomes effective in accordance with its terms, Executive shall also receive a lump sum payment equal to the sum of (i) one hundred percent (100%) of Executive's annual base salary as in effect during the last regularly scheduled payroll period immediately preceding the Covered Termination and (ii) one hundred percent (100%) of Executive's Target Bonus in effect for the year in which Executive's employment terminates, all of the foregoing subject to applicable tax withholding. In addition, following a Covered Termination, Executive and Executive's covered dependents shall be eligible to continue their health care benefit Coverage as permitted by COBRA (Internal Revenue Code Section 4980B) at the same cost to Executive as in effect immediately prior to the Covered Termination for the one (1)-year period following the Covered Termination. Executive shall be entitled to maintain coverage for Executive and Executive's eligible dependents at Executive's own expense or the balance of the period that Executive is entitled to coverage under COBRA.

II. Acceleration of Vesting of Outstanding Stock Options.

If Executive's employment with the Company terminates due to a Covered Termination within eighteen (18) months following the effective date of a Change in Control, then any options to purchase the Company's common stock granted to Executive shall become immediately fully vested and exercisable as of the date of such Covered Termination.

III. Parachute Payments.

If any payment or benefit Executive would receive in connection with a Change in Control from the Company or otherwise ("Payment") would (i) constitute a "parachute payment within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then such Payment shall be reduced to the Reduced Amount. The "Reduced Amount shall be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax or (y) the largest portion, up to and including the total of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt, on an after-tax basis, of the greater amount of the Payment notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting "parachute payments" is necessary so that the Payment equals the Reduced Amount, reduction shall occur in the following order unless Executive elects in writing a different order (*provided, however*, that such election shall be subject to Company approval if made on or after the effective date of the Change in Control); reduction of cash payments; cancellation of accelerated vesting of stock awards; reduction of employee benefits. In the event that acceleration of vesting of stock award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's stock awards unless Executive, elects in writing a different order for cancellation.

The accounting firm engaged by the Company for general audit purposes as of the day prior to the effective date of the Change in Control shall perform the foregoing calculations. If the accounting firm so engaged by the Company is serving as accountant or auditor for the individual, entity or group effecting the Change in Control, the Company shall appoint a nationally recognized accounting firm to make the determinations required hereunder. The Company shall bear all expenses with respect to the determinations by such accounting firm required to be made hereunder.

The accounting firm engaged to make the determinations hereunder shall provide its calculations, together with detailed supporting documentation, to the Company and Executive within fifteen (15) calendar days after the date on which Executive's right to a Payment is triggered (if requested at that time by the Company or Executive) or such other time as requested by the Company or Executive. If the accounting firm determines that no Excise Tax is payable with respect to a Payment, either before or after the application of the Reduced Amount, it shall furnish the Company and Executive with an opinion reasonably acceptable to Executive that no Excise Tax will be imposed with respect to such Payment. Any good faith determinations of the accounting firm made hereunder shall be final, binding and conclusive upon the Company and Executive.

IV. Release.

Upon the occurrence of a Covered Termination, and prior to the receipt of any benefits under Section 4.1 (except pursuant to the first sentence thereof) and Section 4.2 on account of the occurrence of such Covered Termination, Executive shall execute a Release (the "Release") in the form attached hereto as Exhibit A or Exhibit B, as appropriate. Such Release shall specifically relate to all of Executive's rights and claims in existence, at the time of such execution and shall confirm Executive's obligations under the Company's standard form of proprietary information agreement. It is understood that Executive has a certain period to consider whether to execute such Release, and Executive may revoke such Release within seven (7) business days after execution. In the event Executive does not execute such Release within the applicable period, or if Executive revokes such Release within the subsequent seven (7) business day period, none of the aforesaid benefits shall be payable under this Agreement and this Agreement shall be null and void.

V. Mitigation.

Executive shall not be required to mitigate damages or the amount of any payment provided under this Agreement by seeking other employment or otherwise, nor shall the amount of any payment provided for under this Agreement be reduced by any compensation earned by Executive as a result of employment by another employer or by any retirement benefits received by Executive after the date of the Covered Termination, or otherwise.

VI.

PROPRIETARY INFORMATION OBLIGATIONS

1. Agreement.

Executive agrees to execute and abide by the Proprietary Information and Inventions Agreement attached hereto as Exhibit C.

VII. Remedies.

Executive's duties under the Proprietary Information and Inventions Agreement shall survive termination of Executive's employment with the Company and the termination of this Agreement. Executive acknowledges that a remedy at law for any breach or threatened breach by Executive of the provisions of the Proprietary Information and Inventions Agreement would be inadequate, and Executive therefore agrees that the Company shall be entitled to injunctive relief in case of any such breach or threatened breach.

VIII.

OUTSIDE ACTIVITIES

- IX. Except with the prior written consent of the Board and except for consulting arrangements previously approved in writing by the Company, Executive shall not during the term of this Agreement undertake or engage in any other employment, occupation of business enterprise, other than ones in which Executive is a passive investor. Executive may engage in civic and not-for-profit activities so long as such activities do not materially interfere with the performance of Executive's duties hereunder.
- X. During the term of Executive's employment by the Company, except on behalf of the Company, Executive shall not directly or indirectly, whether as an officer, director, stockholder, partner, proprietor, associate, representative, consultant (except for consulting arrangements previously approved in writing by the Company), or in any capacity whatsoever engage in, become financially interested in, be employed by or have any business connection with any other person, corporation, firm, partnership or other entity whatsoever which were known by Executive to compete directly with the Company, throughout the world, in any line of business engaged in (or planned to be engaged in) by the Company; *provided, however*, that anything above to the contrary notwithstanding, Executive may own, as a passive investor, securities of any competitor corporation, so long as Executive's direct holdings in any one such corporation shall not in the aggregate constitute more than 1% of the voting stock of such corporation.

XI.

GENERAL PROVISIONS

While employed by the Company, and for one (1) year immediately following the date on which Executive terminates employment or otherwise ceases providing services to the Company. Executive agrees not to interfere with the business of the Company by soliciting or attempting to solicit any employee of the Company to terminate such employee's employment in order to become an employee, consultant or independent contractor to or for any competitor of the Company. Executive's duties under this Article 7 shall survive termination of Executive's employment with the Company and the termination of this Agreement.

XII.

GENERAL PROVISIONS

1. Notices.

Any notices provided hereunder must be in writing and shall be deemed effective upon the earlier of personal delivery (including personal delivery by telex) or the third day after waiting by first class mail, to the Company at its primary office location and to Executive at Executive's address as listed on the Company payroll.

XIII. Severability.

Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

XIV. Waiver.

If either party should waive any breach of any provisions of this Agreement, they shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

XV. Complete Agreement.

This Agreement and its Exhibit A, Exhibit B and Exhibit C constitute the entire agreement between Executive and the Company and are the complete, final, and exclusive embodiment of their agreement with regard to this subject matter. They are entered into without reliance on any promise or representation other than those

expressly contained herein or therein, and they cannot be modified or amended except in a writing signed by an officer of the Company.

XVI. Counterparts.

This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

XVII. Readings.

The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

XVIII. Successors and Assigns.

This Agreement is intended to bind and inure to the benefit of and be enforceable by Executive and the Company, and their respective successors, assigns, heirs, executors and administrators, except that Executive may not assign any of Executive's duties hereunder and Executive may not assign any of Executive's rights hereunder, without the written consent of the Company, which shall not be withheld unreasonably.

XIX. Arbitration.

Unless otherwise prohibited by law or specified below, all disputes, claims and causes of action, in law or equity, arising from or relating to this Agreement or its enforcement, performance, breach, or interpretation shall be resolved solely and exclusively by final and binding arbitration held in San Francisco County, California through Judicial Arbitration & Mediation Services/Endispute ("JAMS") under the then existing JAMS arbitration rules. However, nothing in this section is intended to prevent either party from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Each party in any such arbitration shall be responsible for its own attorneys' fees, costs and necessary disbursement; *provided, however*, that if one party refuses to arbitrate and the other party seeks to comply arbitration by court order, if such other party prevails, it shall be entitled to recover reasonable attorneys' fees, costs and necessary disbursements. Pursuant to California Civil Code Section 1717, each party warrants that it was represented by counsel in the negotiation and execution of this Agreement, including the attorneys' fees provision herein.

XX. Attorneys' Fees.

If either party hereto brings any action to enforce rights hereunder, each party in any such action shall be responsible for its own attorneys' fees and costs incurred in connection with such action.

XXI. Choice of Law.

All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California.

IN WITNESS WHEREOF,

the parties have executed this Agreement on the day and year first above written.

AXYS PHARMACEUTICALS, INC.

By: Paul J. Hastings

Date: March 26, 2001

Accepted and agreed this

26th day of March, 2001

/s/ Douglas Altschuler

DOUGLAS ALTSCHULER

Exhibit A: Release (Individual Termination)

Exhibit B: Release (Group Termination)

Exhibit C: Proprietary Information and Inventions Agreement

EXHIBIT A
RELEASE
(INDIVIDUAL TERMINATION)

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows:

"A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."

I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and

obligations of every kind and nature in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation, claims pursuant to any federal, state or local law or cause, of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended, the federal Americans with Disabilities Act of 1990, the California Fair Employment and Housing Act, as amended, tort law, contract law, statutory law, common law, wrongful discharge, discrimination fraud, defamation, emotional distress, and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have twenty-one (21) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; and (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth (8th) day after this Release is executed by me.

DOUGLAS ALTSCHULER

Date: _____

EXHIBIT B

**RELEASE
(GROUP TERMINATION)**

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.**" I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement. I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended, the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"), the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990, the California Fair Employment and Housing Act, as amended; tort law, contract law; statutory law; common law, wrongful discharge, discrimination, fraud, defamation, emotional distress, and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release, (C) I have forty-five (45) days to consider this Release (although I may choose to voluntarily execute this Release earlier), (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth day (8th) after this Release is executed by me; and (F) I have received with this Release a detailed list of the job titles and ages of all employees who were terminated in this group termination and the ages of all employees of the Company in the same job classification or organizational unit who were not terminated.

DOUGLAS ALTSCHULER

Date: _____

EXHIBIT C

PROPRIETARY INFORMATION AND INVENTIONS AGREEMENT

AMENDED AND RESTATED
EXECUTIVE EMPLOYMENT AGREEMENT

This Executive Employment Agreement ("Agreement") is entered into as of the 30th day of March, 2001 (the "Effective Date"), by and between Daniel F. Hoth, M.D. ("Executive") and Axys Pharmaceuticals, Inc. (the "Company").

Whereas

, the Company desires to continue to employ Executive to provide personal services to the Company, and wishes to provide Executive with certain compensation and benefits in return for Executive's services; and

Whereas

, Executive wishes to continue to be employed by the Company and provide personal services to the Company in return for certain compensation and benefits; and

Whereas

, Executive and the Company wish to amend and restate that Employment Agreement entered into between the two parties as of _____, 2000 (the "Prior Agreement").

Now, Therefore

, in consideration of the mutual promises and covenants contained herein, it is hereby agreed by and between the parties hereto as follows:

I.
DEFINITIONS

For purposes of the Agreement, the following terms are defined as follows:

1. "**Board**" means the Board of Directors of the Company.
2. "**Cause**" means:
 - a. Executive's intentional action or intentional failure to act that was performed in bad faith and to the material detriment of the business of the Company;
 - b. Executive's intentional refusal or intentional failure to act in accordance with any lawful and proper direction or order of the Board or the appropriate individual to whom Executive reports;
 - c. Executive's willful and habitual neglect of Executive's duties of employment;
 - d. Executive's violation of any noncompetition or noninterference agreement that Executive has entered into with the Company; or

- e. Executive's conviction of a felony crime involving moral turpitude;

provided, however

, that if any of the foregoing events under clauses (a), (b), (c) or (d) above is capable of being cured, the Company shall provide written notice to Executive describing the nature of such event and Executive shall thereafter have ten (10) business days to cure such event.

6. "**Change in Control**" means the occurrence of any of the following events:
 - a. a dissolution, liquidation or sale of all or substantially all of the assets of the Company;
 - b. a merger or consolidation in which the Company is not the surviving corporation;
 - c. a reverse merger in which the Company is the surviving corporation but shares outstanding immediately preceding the merger are converted by virtue of the merger into other property, whether in the form of securities, cash or otherwise; or
 - d. the acquisition by any person, entity or group within the meaning of Section 13(d) or 14(d) of the Exchange Act, or any comparable successor provisions (excluding any employee benefit plan, or related trust, sponsored or maintained by the Company or any Affiliate of the Company) of the beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act, or comparable successor rule) of securities of the Company representing at least fifty percent (50%) of the combined voting power entitled to vote in the election of directors.
5. "**Company**" means Axys Pharmaceuticals, Inc. or, following a Change in Control, the surviving entity resulting from such transaction.
6. "**Covered Termination**" means (i) an Involuntary Termination Without Cause that occurs at any time, without regard to a Change in Control, or (ii) a voluntary termination for Good Reason that occurs on or after the effective date of a Change in Control.
7. "**Exchange Act**" means the Securities Exchange Act of 1934, as amended.
8. "**Good Reason**" means that any of the following are undertaken without Executive's express written consent:
 - a. the assignment to Executive of any duties or responsibilities that results in any diminution or adverse change of Executive's position, status, circumstances of employment or scope of responsibilities;
 - b. a reduction by the Company in Executive's annual base salary as in effect on the effective date of the Change in Control;
 - c. the taking of any action by the Company that would adversely affect Executive's participation in, or reduce Executive's benefits under, the Company's benefit plans (including equity benefits) as of the effective date of the Change in Control, except to the extent the benefits of all other executives of the Company are similarly reduced;

- d. a relocation of Executive's principal office to a location more than forty (40) miles from the location at which Executive was performing Executive's duties as of the effective date of the Change in Control, except for required travel by Executive on the Company's business;
 - e. any material breach by the Company of any provision of this Agreement; or
 - f. any failure by the Company to obtain the assumption of this Agreement by any successor or assign of the Company.
7. **"Involuntary Termination Without Cause"** means Executive's dismissal or discharge other than for Cause. The termination of Executive's employment as a result of Executive's death or disability will not be deemed to be an Involuntary Termination Without Cause.

III.

Employment by the Company

1. Position and Duties.

Subject to terms set forth herein, the Company agrees to continue to employ Executive in the position of Senior Vice President and Chief Medical Officer and Executive hereby accepts such continued employment. Executive shall serve in an executive capacity and shall perform such duties as are customarily associated with the position of Senior Vice President and Chief Medical Officer and such other duties as are assigned to Executive by the Company's Chief Executive Officer. Executive will report to the Chief Executive Officer. During the term of Executive's employment with the Company, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention (except for vacation periods as set forth herein and reasonable periods of illness or other incapacities permitted by the Company's general employment policies or as otherwise set forth in this Agreement) to the business of the Company.

IV. **Employment at Will.**

Both the Company and Executive shall have the right to terminate Executive's employment with the Company at any time, with or without Cause, and without prior notice. If Executive's employment with the Company is terminated, Executive will be eligible to receive severance benefits to the extent provided in this Agreement.

V. **Employment Policies.**

The employment relationship between the parties shall also be governed by the general employment policies and practices of the Company, including those relating to protection of confidential information and assignment of inventions, except that when the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

VI.

Compensation

1. Base Salary.

Executive shall receive for services to be rendered hereunder an annual base salary of \$305,000.00, payable on the regular payroll dates of the Company, subject to increase in the sole discretion of the Board of Directors.

II. Annual Bonus.

Executive will be eligible for an annual bonus up to thirty percent (30%) of Executive's then current annual base salary upon achievement of reasonable goals specified by the Board (the "Target Bonus"). Such goals shall be set forth in writing by the Board prior to the close of the first quarter of each fiscal year of the Company, with fifty percent (50%) of such goals to be dependent on Executive's individual performance and fifty percent (50%) of such goals to be dependent on the Company's performance.

III. Standard Company Benefits.

Executive shall be entitled to all rights and benefits for which Executive is eligible under the terms and conditions of the standard Company benefits and compensation practices that may be in effect from time to time and are provided by the Company to its executive employees generally.

IV.

SEVERANCE and CHANGE IN CONTROL BENEFITS

1. Severance Benefits.

If Executive's employment terminates due to a Covered Termination after the date of execution of this Agreement, Executive shall receive any annual base salary and bonus compensation that has accrued but is unpaid as of the date of such Covered Termination. Within thirty (30) days following the date on which the Release described in Section 4.4 below becomes effective in accordance with its terms, Executive shall also receive a lump sum payment equal to the sum of (i) one hundred percent (100%) of Executive's annual base salary as in effect during the last regularly scheduled payroll period immediately preceding the Covered Termination and (ii) one hundred percent (100%) of Executive's Target Bonus in effect for the year in which Executive's employment terminates, all of the foregoing subject to applicable tax withholding. In addition, following a Covered Termination, Executive and Executive's covered dependents shall be eligible to continue their health care benefit coverage as permitted by COBRA (Internal Revenue Code Section 4980B) at the same cost to Executive as in effect immediately prior to the Covered Termination for the one (1)-year period following the Covered Termination. Executive shall be entitled to maintain coverage for Executive and Executive's eligible dependents at Executive's own expense or the balance of the period that Executive is entitled to coverage under COBRA.

V. Acceleration of Vesting of Outstanding Options.

If Executive's employment with the Company terminates due to a Covered Termination within eighteen (18) months following the effective date of a Change in Control, then any options to purchase the Company's common stock granted to Executive shall become immediately fully vested and exercisable as of the date of such Covered Termination.

VI. Parachute Payments.

If any payment or benefit Executive would receive in connection with a Change in Control from the Company or otherwise ("Payment") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then such Payment shall be reduced to the Reduced Amount. The "Reduced Amount" shall be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax or (y) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt, on an after-tax basis, of the greater amount of the Payment notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting "parachute payments" is necessary so that the Payment equals the Reduced Amount, reduction shall occur in the following order unless Executive elects in writing a different order (provided, however, that such election shall be subject to Company approval if made on or after the effective date of the Change in Control): reduction of cash payments; cancellation of accelerated vesting of stock awards; reduction of employee benefits. In the event that acceleration of vesting of stock award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's stock awards unless Executive elects in writing a different order for cancellation.

The accounting firm engaged by the Company for general audit purposes as of the day prior to the effective date of the Change in Control shall perform the foregoing calculations. If the accounting firm so engaged

by the Company is serving as accountant or auditor for the individual, entity or group effecting the Change in Control, the Company shall appoint a nationally recognized accounting firm to make the determinations required hereunder. The Company shall bear all expenses with respect to the determinations by such accounting firm required to be made hereunder.

The accounting firm engaged to make the determinations hereunder shall provide its calculations, together with detailed supporting documentation, to the Company and Executive within fifteen (15) calendar days after the date on which Executive's right to a Payment is triggered (if requested at that time by the Company or Executive) or such other time as requested by the Company or Executive. If the accounting firm determines that no Excise Tax is payable with respect to a Payment, either before or after the application of the Reduced Amount, it shall furnish the Company and Executive with an opinion reasonably acceptable to Executive that no Excise Tax will be imposed with respect to such Payment. Any good faith determinations of the accounting firm made hereunder shall be final, binding and conclusive upon the Company and Executive.

VII. Release.

Upon the occurrence of a Covered Termination, and prior to the receipt of any benefits under Section 4.1 (except pursuant to the first sentence thereof) and Section 4.2 on account of the occurrence of such Covered Termination, Executive shall execute a Release (the "Release") in the form attached hereto as Exhibit A or Exhibit B, as appropriate. Such Release shall specifically relate to all of Executive's rights and claims in existence at the time of such execution and shall confirm Executive's obligations under the Company's standard form of proprietary information agreement. It is understood that Executive has a certain period to consider whether to execute such Release, and Executive may revoke such Release within seven (7) business days after execution. In the event Executive does not execute such Release within the applicable period, or if Executive revokes such Release within the subsequent seven (7) business day period, none of the aforesaid benefits shall be payable under this Agreement and this Agreement shall be null and void.

VIII. Mitigation.

Executive shall not be required to mitigate damages or the amount of any payment provided under this Agreement by seeking other employment or otherwise, nor shall the amount of any payment provided for under this Agreement be reduced by any compensation earned by Executive as a result of employment by another employer or by any retirement benefits received by Executive after the date of the Covered Termination, or otherwise.

IX.

Proprietary Information Obligations

I. Agreement.

Executive agrees to execute and abide by the Proprietary Information and Inventions Agreement attached hereto as Exhibit C.

II. Remedies.

Executive's duties under the Proprietary Information and Inventions Agreement shall survive termination of Executive's employment with the Company and the termination of this Agreement. Executive acknowledges that a remedy at law for any breach or threatened breach by Executive of the provisions of the Proprietary Information and Inventions Agreement would be inadequate, and Executive therefore agrees that the Company shall be entitled to injunctive relief in case of any such breach or threatened breach.

III.

Outside Activities

- I. Except with the prior written consent of the Board and except for consulting arrangements previously approved in writing by the Company, Executive shall not during the term of this Agreement undertake or

engage in any other employment, occupation or business enterprise, other than ones in which Executive is a passive investor. Executive may engage in civic and not-for-profit activities so long as such activities do not materially interfere with the performance of Executive's duties hereunder.

- II. During the term of Executive's employment by the Company, except on behalf of the Company, Executive shall not directly or indirectly, whether as an officer, director, stockholder, partner, proprietor, associate, representative, consultant (except for consulting arrangements previously approved in writing by the Company), or in any capacity whatsoever engage in, become financially interested in, be employed by or have any business connection with any other person, corporation, firm, partnership or other entity whatsoever which were known by Executive to compete directly with the Company, throughout the world, in any line of business engaged in (or planned to be engaged in) by the Company; provided, however, that anything above to the contrary notwithstanding, Executive may own, as a passive investor, securities of any competitor corporation, so long as Executive's direct holdings in any one such corporation shall not in the aggregate constitute more than 1% of the voting stock of such corporation.

III.

Noninterference

While employed by the Company, and for one (1) year immediately following the date on which Executive terminates employment or otherwise ceases providing services to the Company, Executive agrees not to interfere with the business of the Company by soliciting or attempting to solicit any employee of the Company to terminate such employee's employment in order to become an employee, consultant or independent contractor to or for any competitor of the Company. Executive's duties under this Article 7 shall survive termination of Executive's employment with the Company and the termination of this Agreement.

IV.

General Provisions

1. Notices.

Any notices provided hereunder must be in writing and shall be deemed effective upon the earlier of personal delivery (including personal delivery by telex) or the third day after mailing by first class mail, to the Company at its primary office location and to Executive at Executive's address as listed on the Company payroll.

V. Severability.

Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

VI. Waiver.

If either party should waive any breach of any provisions of this Agreement, they shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

VII. Complete Agreement.

This Agreement and its Exhibit A, Exhibit B and Exhibit C constitute the entire agreement between Executive and the Company and are the complete, final, and exclusive embodiment of their agreement with regard to this subject matter. They are entered into without reliance on any promise or representation other than those expressly contained herein or therein, and they cannot be modified or amended except in a writing signed by an officer of the Company.

VIII. Counterparts.

This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

IX. Headings.

The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

X. Successors and Assigns.

This Agreement is intended to bind and inure to the benefit of and be enforceable by Executive and the Company, and their respective successors, assigns, heirs, executors and administrators, except that Executive may not assign any of Executive's duties hereunder and Executive may not assign any of Executive's rights hereunder, without the written consent of the Company, which shall not be withheld unreasonably.

XI. Arbitration.

Unless otherwise prohibited by law or specified below, all disputes, claims and causes of action, in law or equity, arising from or relating to this Agreement or its enforcement, performance, breach, or interpretation shall be resolved solely and exclusively by final and binding arbitration held in San Francisco County, California through Judicial Arbitration & Mediation Services/Endispute ("JAMS") under the then existing JAMS arbitration rules. However, nothing in this section is intended to prevent either party from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Each party in any such arbitration shall be responsible for its own attorneys' fees, costs and necessary disbursement; *provided, however*, that if one party refuses to arbitrate and the other party seeks to compel arbitration by court order, if such other party prevails, it shall be entitled to recover reasonable attorneys' fees, costs and necessary disbursements. Pursuant to California Civil Code Section 1717, each party warrants that it was represented by counsel in the negotiation and execution of this Agreement, including the attorneys' fees provision herein.

XII. Attorneys' Fees

. If either party hereto brings any action to enforce rights hereunder, each party in any such action shall be responsible for its own attorneys' fees and costs incurred in connection with such action.

XIII. Choice of Law.

All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California.

8.11 Amended and Restated Agreement.

This Agreement shall supersede in its entirety the Prior Agreement as of the Effective Time.

In Witness Whereof

, the parties have executed this Agreement on the day and year first above written.

Axys Pharmaceuticals, Inc.

By: Paul J. Hastings

Date: March 26, 2001

Accepted and agreed this
30th day of March, 2001

/s/ Daniel F. Hoth

Daniel F. Hoth, M.D.

Exhibit A: Release (Individual Termination)

Exhibit B: Release (Group Termination)

Exhibit C: Proprietary Information and Inventions Agreement

Exhibit A

RELEASE (Individual Termination)

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.**" I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements,

severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; emotional distress; and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have twenty-one (21) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; and (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth (8th) day after this Release is executed by me.

Daniel F. Hoth, M.D.

Date: _____

Exhibit B

**RELEASE
(Group Termination)**

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.**" I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; emotional distress; and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have forty-five (45) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth day (8th) after this Release is executed by me; and (F) I have received with this Release a detailed list of the job titles and ages of all employees who were terminated in this group termination and the ages of all employees of the Company in the same job classification or organizational unit who were not terminated.

Daniel F. Hoth, M.D.

Date: _____

Exhibit C

Proprietary Information and Inventions Agreement

AMENDED AND RESTATED
EXECUTIVE EMPLOYMENT AGREEMENT

This Amended and Restated Executive Employment Agreement ("Agreement") is entered into as of the 28th day of March, 2001 (the "Effective Date"), by and between Michael C. Venuti, Ph.D. ("Executive") and Axys Pharmaceuticals, Inc. (the "Company").

Whereas

, the Company desires to continue to employ Executive to provide personal services to the Company, and wishes to provide Executive with certain compensation and benefits in return for Executive's services; and

Whereas

, Executive wishes to continue to be employed by the Company and provide personal services to the Company in return for certain compensation and benefits; and

Whereas,

Executive and the Company wish to amend and restate that Employment Agreement entered into between the two parties as of December 14, 1999 (the "Prior Agreement").

Now, Therefore

, in consideration of the mutual promises and covenants contained herein, it is hereby agreed by and between the parties hereto as follows:

I.
DEFINITIONS

For purposes of the Agreement, the following terms are defined as follows:

1. "**Board**" means the Board of Directors of the Company.
2. "**Cause**" means:
 - a. Executive's intentional action or intentional failure to act that was performed in bad faith and to the material detriment of the business of the Company;
 - b. Executive's intentional refusal or intentional failure to act in accordance with any lawful and proper direction or order of the Board or the appropriate individual to whom Executive reports;
 - c. Executive's willful and habitual neglect of Executive's duties of employment;
 - d. Executive's violation of any noncompetition or noninterference agreement that Executive has entered into with the Company; or

- e. Executive's conviction of a felony crime involving moral turpitude;

provided, however

, that if any of the foregoing events under clauses (a), (b), (c) or (d) above is capable of being cured, the Company shall provide written notice to Executive describing the nature of such event and Executive shall thereafter have ten (10) business days to cure such event.

- 6. "**Change in Control**" means the occurrence of any of the following events:

- a. a dissolution, liquidation or sale of all or substantially all of the assets of the Company;
- b. a merger or consolidation in which the Company is not the surviving corporation;
- c. a reverse merger in which the Company is the surviving corporation but shares outstanding immediately preceding the merger are converted by virtue of the merger into other property, whether in the form of securities, cash or otherwise; or
- d. the acquisition by any person, entity or group within the meaning of Section 13(d) or 14(d) of the Exchange Act, or any comparable successor provisions (excluding any employee benefit plan, or related trust, sponsored or maintained by the Company or any Affiliate of the Company) of the beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act, or comparable successor rule) of securities of the Company representing at least fifty percent (50%) of the combined voting power entitled to vote in the election of directors.

- 5. "**Company**" means Axys Pharmaceuticals, Inc. or, following a Change in Control, the surviving entity resulting from such transaction.

- 6. "**Covered Termination**" means (i) an Involuntary Termination Without Cause that occurs at any time, without regard to a Change in Control, or (ii) a voluntary termination for Good Reason that occurs on or after the effective date of a Change in Control.

- 7. "**Exchange Act**"

means the Securities Exchange Act of 1934, as amended.

- 8. "**Good Reason**" means that any of the following are undertaken without Executive's express written consent:
 - a. the assignment to Executive of any duties or responsibilities that results in any diminution or adverse change of Executive's position, status, circumstances of employment or scope of responsibilities;
 - b. a reduction by the Company in Executive's annual base salary as in effect on the effective date of the Change in Control;
 - c. the taking of any action by the Company that would adversely affect Executive's participation in, or reduce Executive's benefits under, the Company's benefit plans (including equity benefits) as of the effective date of the Change in Control, except to the extent the benefits of all other executives of the Company are similarly reduced;

- d. a relocation of Executive's principal office to a location more than forty (40) miles from the location at which Executive was performing Executive's duties as of the effective date of the Change in Control, except for required travel by Executive on the Company's business;
 - e. any material breach by the Company of any provision of this Agreement; or
 - f. any failure by the Company to obtain the assumption of this Agreement by any successor or assign of the Company.
7. **"Involuntary Termination Without Cause"** means Executive's dismissal or discharge other than for Cause. The termination of Executive's employment as a result of Executive's death or disability will not be deemed to be an Involuntary Termination Without Cause.

III.

Employment by the Company

1. Position and Duties.

Subject to terms set forth herein, the Company agrees to continue to employ Executive in the position of Senior Vice President, Research and Preclinical Development and Chief Technical Officer and Executive hereby accepts such continued employment. Executive shall serve in an executive capacity and shall perform such duties as are customarily associated with the position of Senior Vice President, Research and Preclinical Development and Chief Technical Officer and such other duties as are assigned to Executive by the Company's Chief Executive Officer. Executive will report to the Chief Executive Officer. During the term of Executive's employment with the Company, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention (except for vacation periods as set forth herein and reasonable periods of illness or other incapacities permitted by the Company's general employment policies or as otherwise set forth in this Agreement) to the business of the Company.

IV. Employment at Will.

Both the Company and Executive shall have the right to terminate Executive's employment with the Company at any time, with or without Cause, and without prior notice. If Executive's employment with the Company is terminated, Executive will be eligible to receive severance benefits to the extent provided in this Agreement.

V. Employment Policies.

The employment relationship between the parties shall also be governed by the general employment policies and practices of the Company, including those relating to protection of confidential information and assignment of inventions, except that when the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

VI.

Compensation

1. Base Salary.

Executive shall receive for services to be rendered hereunder an annual base salary of \$290,000.00, payable on the regular payroll dates of the Company, subject to increase in the sole discretion of the Board of Directors.

II. Annual Bonus.

Executive will be eligible for an annual bonus up to thirty percent (30%) of Executive's then current annual base salary upon achievement of reasonable goals specified by the Board (the "Target Bonus"). Such goals shall be set forth in writing by the Board prior to the close of the first quarter of each fiscal year of the

Company, with fifty percent (50%) of such goals to be dependent on Executive's individual performance and fifty percent (50%) of such goals to be dependent on the Company's performance.

III. Standard Company Benefits.

Executive shall be entitled to all rights and benefits for which Executive is eligible under the terms and conditions of the standard Company benefits and compensation practices that may be in effect from time to time and are provided by the Company to its executive employees generally.

IV. Compensatory Stock Award.

The Board has previously granted Executive an option to acquire seventy-five thousand (75,000) shares of the common stock of the Company (the "Option"). The Option has been granted pursuant to the Company's 1997 Equity Incentive Plan. The Option is an incentive stock option for purposes of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), to the extent permitted under the Code. The exercise price per share of the Option is equal to one hundred percent (100%) of the fair market value of the Company's common stock, as determined pursuant to the Company's 1997 Equity Incentive Plan, on the date of grant. Subject to Executive's continued employment by the Company, the Option vests as to one-forty-eighth (1/48) of the shares of common stock subject to the Option each calendar month for forty-eight (48) months, counted from the Option's date of grant. In all other respects, the Option is governed by the terms of the Plan, including the option agreement and grant notice thereunder.

3.5 Debt Forgiveness.

- V. The Company and Executive agree that as of August ____, 2000, the Executive was obligated to pay to the Company principal and accrued interest under his \$300,000 promissory note (the "Note") in accordance with the terms of such Note, a copy of which is attached hereto.
- VI. Provided that Executive continues to render services to the Company (or any successor thereto) through each of the respective dates listed in the "Effective Date" column below, a proportionate amount of the principal of the Note, together with interest accrued upon such respective principal amounts through the date thereof, shall be forgiven as follows:

<u>Effective Date</u>	<u>Debt Forgiveness</u>
8/__/01	\$60,000
8/__/02	\$60,000
8/__/03	\$60,000
8/__/04	\$60,000

Any amounts under the Note not otherwise forgiven or previously paid by Executive shall be paid by Executive to the Company on August __, 2005 or such earlier date as provided in the Note.

VII.

SEVERANCE and CHANGE IN CONTROL BENEFITS

1. Severance Benefits.

If Executive's employment terminates due to a Covered Termination after the date of execution of this Agreement, Executive shall receive any annual base salary and bonus compensation that has accrued but is unpaid as of the date of such Covered Termination. Within thirty (30) days following the date on which the Release described in Section 4.4 below becomes effective in accordance with its terms, Executive shall also receive a lump sum payment equal to the sum of (i) one hundred percent (100%) of Executive's annual base salary as in effect during the last regularly scheduled payroll period immediately preceding the Covered Termination and (ii) one hundred percent (100%) of Executive's Target Bonus in effect for the year in which Executive's employment terminates, all of the foregoing subject to applicable tax withholding. In addition, following a Covered Termination, Executive and Executive's covered dependents shall be eligible to continue their health care benefit coverage as permitted by COBRA (Internal Revenue Code Section 4980B) at the same cost to Executive as in effect immediately prior to the Covered Termination for the one (1)-year period following the Covered Termination. Executive shall be entitled to maintain coverage for Executive and Executive's eligible dependents at Executive's own expense or the balance of the period that Executive is entitled to coverage under COBRA.

VIII. Acceleration of Vesting of Outstanding Options/Debt Forgiveness.

If Executive's employment with the Company terminates due to a Covered Termination within eighteen (18) months following the effective date of a Change in Control, then (i) any options to purchase the Company's common stock granted to Executive (including without limitation the Option) shall become immediately fully vested and exercisable as of the date of such Covered Termination and (ii) the principal or accrued interest amounts outstanding under the Note as of the date of Executive's termination of employment, if any, shall be forgiven in their entirety.

IX. Parachute Payments.

If any payment or benefit Executive would receive in connection with a Change in Control from the Company or otherwise ("Payment") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then such Payment shall be reduced to the Reduced Amount. The "Reduced Amount" shall be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax or (y) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt, on an after-tax basis, of the greater amount of the Payment notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting "parachute payments" is necessary so that the Payment equals the Reduced Amount, reduction shall occur in the following order unless Executive elects in writing a different order (provided, however, that such election shall be subject to Company approval if made on or after the effective date of the Change in Control): reduction of cash payments; cancellation of accelerated vesting of stock

awards; reduction of employee benefits. In the event that acceleration of vesting of stock award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's stock awards unless Executive elects in writing a different order for cancellation.

The accounting firm engaged by the Company for general audit purposes as of the day prior to the effective date of the Change in Control shall perform the foregoing calculations. If the accounting firm so engaged by the Company is serving as accountant or auditor for the individual, entity or group effecting the Change in Control, the Company shall appoint a nationally recognized accounting firm to make the determinations required hereunder. The Company shall bear all expenses with respect to the determinations by such accounting firm required to be made hereunder.

The accounting firm engaged to make the determinations hereunder shall provide its calculations, together with detailed supporting documentation, to the Company and Executive within fifteen (15) calendar days after the date on which Executive's right to a Payment is triggered (if requested at that time by the Company or Executive) or such other time as requested by the Company or Executive. If the accounting firm determines that no Excise Tax is payable with respect to a Payment, either before or after the application of the Reduced Amount, it shall furnish the Company and Executive with an opinion reasonably acceptable to Executive that no Excise Tax will be imposed with respect to such Payment. Any good faith determinations of the accounting firm made hereunder shall be final, binding and conclusive upon the Company and Executive.

X. Release.

Upon the occurrence of a Covered Termination, and prior to the receipt of any benefits under Section 4.1 (except pursuant to the first sentence thereof) and Section 4.2 on account of the occurrence of such Covered Termination, Executive shall execute a Release (the "Release") in the form attached hereto as Exhibit A or Exhibit B, as appropriate. Such Release shall specifically relate to all of Executive's rights and claims in existence at the time of such execution and shall confirm Executive's obligations under the Company's standard form of proprietary information agreement. It is understood that Executive has a certain period to consider whether to execute such Release, and Executive may revoke such Release within seven (7) business days after execution. In the event Executive does not execute such Release within the applicable period, or if Executive revokes such Release within the subsequent seven (7) business day period, none of the aforesaid benefits shall be payable under this Agreement and this Agreement shall be null and void.

XI. Mitigation.

Executive shall not be required to mitigate damages or the amount of any payment provided under this Agreement by seeking other employment or otherwise, nor shall the amount of any payment provided for under this Agreement be reduced by any compensation earned by Executive as a result of employment by another employer or by any retirement benefits received by Executive after the date of the Covered Termination, or otherwise.

XII.

Proprietary Information Obligations

1. Agreement.

Executive agrees to execute and abide by the Proprietary Information and Inventions Agreement attached hereto as Exhibit C.

XIII. Remedies.

Executive's duties under the Proprietary Information and Inventions Agreement shall survive termination of Executive's employment with the Company and the termination of this Agreement. Executive acknowledges that a remedy at law for any breach or threatened breach by Executive of the provisions of the Proprietary

Information and Inventions Agreement would be inadequate, and Executive therefore agrees that the Company shall be entitled to injunctive relief in case of any such breach or threatened breach.

XIV.

Outside Activities

XV. Except with the prior written consent of the Board, Executive shall not during the term of this Agreement undertake or engage in any other employment, occupation or business enterprise, other than ones in which Executive is a passive investor. Executive may engage in civic and not-for-profit activities so long as such activities do not materially interfere with the performance of Executive's duties hereunder.

XVI. During the term of Executive's employment by the Company, except on behalf of the Company, Executive shall not directly or indirectly, whether as an officer, director, stockholder, partner, proprietor, associate, representative, consultant, or in any capacity whatsoever engage in, become financially interested in, be employed by or have any business connection with any other person, corporation, firm, partnership or other entity whatsoever which were known by Executive to compete directly with the Company, throughout the world, in any line of business engaged in (or planned to be engaged in) by the Company; provided, however, that anything above to the contrary notwithstanding, Executive may own, as a passive investor, securities of any competitor corporation, so long as Executive's direct holdings in any one such corporation shall not in the aggregate constitute more than 1% of the voting stock of such corporation.

XVII.

Noninterference

While employed by the Company, and for one (1) year immediately following the date on which Executive terminates employment or otherwise ceases providing services to the Company, Executive agrees not to interfere with the business of the Company by soliciting or attempting to solicit any employee of the Company to terminate such employee's employment in order to become an employee, consultant or independent contractor to or for any competitor of the Company. Executive's duties under this Article 7 shall survive termination of Executive's employment with the Company and the termination of this Agreement.

XVIII.

General Provisions

1. Notices.

Any notices provided hereunder must be in writing and shall be deemed effective upon the earlier of personal delivery (including personal delivery by telex) or the third day after mailing by first class mail, to the Company at its primary office location and to Executive at Executive's address as listed on the Company payroll.

XIX. Severability.

Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

XX. Waiver.

If either party should waive any breach of any provisions of this Agreement, they shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

XXI. Complete Agreement.

This Agreement and its Exhibit A, Exhibit B and Exhibit C constitute the entire agreement between Executive and the Company and are the complete, final, and exclusive embodiment of their agreement with regard to this subject matter. They are entered into without reliance on any promise or representation other than those expressly contained herein or therein, and they cannot be modified or amended except in a writing signed by an officer of the Company.

XXII. Counterparts.

This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

XXIII. Headings.

The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

XXIV. Successors and Assigns.

This Agreement is intended to bind and inure to the benefit of and be enforceable by Executive and the Company, and their respective successors, assigns, heirs, executors and administrators, except that Executive may not assign any of Executive's duties hereunder and Executive may not assign any of Executive's rights hereunder, without the written consent of the Company, which shall not be withheld unreasonably.

XXV. Arbitration.

Unless otherwise prohibited by law or specified below, all disputes, claims and causes of action, in law or equity, arising from or relating to this Agreement or its enforcement, performance, breach, or interpretation shall be resolved solely and exclusively by final and binding arbitration held in San Francisco County, California through Judicial Arbitration & Mediation Services/Endispute ("JAMS") under the then existing JAMS arbitration rules. However, nothing in this section is intended to prevent either party from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Each party in any such arbitration shall be responsible for its own attorneys' fees, costs and necessary disbursement; *provided, however,* that if one party refuses to arbitrate and the other party seeks to compel arbitration by court order, if such other party prevails, it shall be entitled to recover reasonable attorneys' fees, costs and necessary disbursements. Pursuant to California Civil Code Section 1717, each party warrants that it was represented by counsel in the negotiation and execution of this Agreement, including the attorneys' fees provision herein.

XXVI. Attorneys' Fees

. If either party hereto brings any action to enforce rights hereunder, each party in any such action shall be responsible for its own attorneys' fees and costs incurred in connection with such action.

XXVII. Choice of Law.

All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California.

8.11 Amended and Restated Agreement.

This Agreement shall supersede in its entirety the Prior Agreement as of the Effective Date.

In Witness Whereof

, the parties have executed this Agreement on the day and year first above written.

Axys Pharmaceuticals, Inc.

By: /s/ Paul J. Hastings

Date: March 27, 2001

Accepted and agreed this
28th day of March, 2001

/s/ Michael C. Venuti

Michael C. Venuti, Ph.D.

Exhibit A: Release (Individual Termination)

Exhibit B: Release (Group Termination)

Exhibit C: Proprietary Information and Inventions Agreement

Exhibit A

RELEASE (Individual Termination)

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.**" I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any

way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; emotional distress; and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have twenty-one (21) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; and (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth (8th) day after this Release is executed by me.

Michael C. Venuti, Ph.D.

Date: _____

Exhibit B
RELEASE
(Group Termination)

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist**

in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor." I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; emotional distress; and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have forty-five (45) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth day (8th) after this Release is executed by me; and (F) I have received with this Release a detailed list of the job titles and ages of all employees who were terminated in this group termination and the ages of all employees of the Company in the same job classification or organizational unit who were not terminated.

Michael C. Venuti, Ph.D.

Date: _____

Exhibit C

Proprietary Information and Inventions Agreement

**AMENDED AND RESTATED
EXECUTIVE EMPLOYMENT AGREEMENT**

This Amended and Restated Executive Employment Agreement ("Agreement") is entered into as of the 27th day of March, 2001 (the "Effective Date"), by and between William J. Newell ("Executive") and Axys Pharmaceuticals, Inc. (the "Company").

Whereas

, the Company desires to continue to employ Executive to provide personal services to the Company, and wishes to provide Executive with certain compensation and benefits in return for Executive's services;

Whereas

, Executive wishes to continue to be employed by the Company and provide personal services to the Company in return for certain compensation and benefits; and

Whereas

, Executive and the Company wish to amend and restate that Employment Agreement entered into between the two parties as of March 14, 1999 (the "Prior Agreement").

Now, Therefore

, in consideration of the mutual promises and covenants contained herein, it is hereby agreed by and between the parties hereto as follows:

**I.
DEFINITIONS**

For purposes of the Agreement, the following terms are defined as follows:

1. "Board" means the Board of Directors of the Company.
2. "Cause" means:
 - a. Executive's intentional action or intentional failure to act that was performed in bad faith and to the material detriment of the business of the Company;
 - b. Executive's intentional refusal or intentional failure to act in accordance with any lawful and proper direction or order of the Board or the appropriate individual to whom Executive reports;
 - c. Executive's willful and habitual neglect of Executive's duties of employment;
 - d. Executive's violation of any noncompetition or noninterference agreement that Executive has entered into with the Company; or

- e. Executive's conviction of a felony crime involving moral turpitude; *provided, however*, that if any of the foregoing events under clauses (a), (b), (c) or (d) above is capable of being cured, the Company shall provide written notice to Executive describing the nature of such event and Executive shall thereafter have ten (10) business days to cure such event.
6. "**Change in Control**" means the occurrence of any of the following events:
 - a. a dissolution, liquidation or sale of all or substantially all of the assets of the Company;
 - b. a merger or consolidation in which the Company is not the surviving corporation;
 - c. a reverse merger in which the Company is the surviving corporation but shares outstanding immediately preceding the merger are converted by virtue of the merger into other property, whether in the form of securities, cash or otherwise; or
 - d. the acquisition by any person, entity or group within the meaning of Section 13(d) or 14(d) of the Exchange Act, or any comparable successor provisions (excluding any employee benefit plan, or related trust, sponsored or maintained by the Company or any Affiliate of the Company) of the beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act, or comparable successor rule) of securities of the Company representing at least fifty percent (50%) of the combined voting power entitled to vote in the election of directors.
 5. "**Company**" means Axys Pharmaceuticals, Inc. or, following a Change in Control, the surviving entity resulting from such transaction.
 6. "**Covered Termination**" means (i) an Involuntary Termination Without Cause that occurs at any time, without regard to a Change in Control, or (ii) a voluntary termination for Good Reason that occurs on or after the effective date of a Change in Control.
 7. "**Exchange Act**" means the Securities Exchange Act of 1934, as amended.
 8. "**Good Reason**" means that any of the following are undertaken without Executive's express written consent:
 - a. the assignment to Executive of any duties or responsibilities that results in any diminution or adverse change of Executive's position, status, circumstances of employment or scope of responsibilities;
 - b. a reduction by the Company in Executive's annual base salary as in effect on the effective date of the Change in Control;
 - c. the taking of any action by the Company that would adversely affect Executive's participation in, or reduce Executive's benefits under, the Company's benefit plans (including equity benefits) as of the effective date of the Change in Control, except to the extent the benefits of all other executives of the Company are similarly reduced;
 - d. a relocation of Executive's principal office to a location more than forty (40) miles from the location at which Executive was performing Executive's duties as of the effective date of the Change in Control, except for required travel by Executive on the Company's business;

- e. any material breach by the Company of any provision of this Agreement; or
 - f. any failure by the Company to obtain the assumption of this Agreement by any successor or assign of the Company.
7. **"Involuntary Termination Without Cause"** means Executive's dismissal or discharge other than for Cause. The termination of Executive's employment as a result of Executive's death or disability will not be deemed to be an Involuntary Termination Without Cause.

III.

EMPLOYMENT BY THE COMPANY

IV. Position and Duties.

Subject to terms set forth herein, the Company agrees to continue to employ Executive in the position of Senior Vice President, Corporate and Business Development and Executive hereby accepts such continued employment. Executive shall serve in an executive capacity and shall perform such duties as are customarily associated with the position of Senior Vice President, Corporate and Business Development and such other duties as are assigned to Executive by the Company's Chief Executive Officer. Executive will report to the Chief Executive Officer. During the term of Executive's employment with the Company, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention (except for vacation periods as set forth herein and reasonable periods of illness or other incapacities permitted by the Company's general employment policies or as otherwise set forth in this Agreement) to the business of the Company.

V. Employment at Will.

Both the Company and Executive shall have the right to terminate Executive's employment with the Company at any time, with or without Cause, and without prior notice. If Executive's employment with the Company is terminated, Executive will be eligible to receive severance benefits to the extent provided in this Agreement.

VI. Employment Policies.

The employment relationship between the parties shall also be governed by the general employment policies and practices of the Company, including those relating to protection of confidential information and assignment of inventions, except that when the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

VII.

COMPENSATION

I. Base Salary.

Executive shall receive for services to be rendered hereunder an annual base salary of \$275,000.00, payable on the regular payroll dates of the Company, subject to increase in the sole discretion of the Board of Directors.

II. Annual Bonus.

Executive will be eligible for an annual bonus up to thirty percent (30%) of Executive's then current annual base salary upon achievement of reasonable goals specified by the Board (the "Target Bonus"). Such goals shall be set forth in writing by the Board prior to the close of the first quarter of each fiscal year of the Company, with fifty percent (50%) of such goals to be dependent on Executive's individual performance and fifty percent (50%) of such goals to be dependent on the Company's performance.

III. Standard Company Benefits.

Executive shall be entitled to all rights and benefits for which Executive is eligible under the terms and conditions of the standard Company benefits and compensation practices that may be in effect from time to time and are provided by the Company to its executive employees generally.

IV. Compensatory Stock Award.

The Board has previously granted Executive an option to acquire seventy-five thousand (75,000) shares of the common stock of the Company (the "Option"). The Option has been granted pursuant to the Company's 1997 Equity Incentive Plan. The Option is an incentive stock option for purposes of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), to the extent permitted under the Code. The exercise price per share of the Option is equal to one hundred percent (100%) of the fair market value of the Company's common stock, as determined pursuant to the Company's 1997 Equity Incentive Plan, on the date of grant. Subject to Executive's continued employment by the Company, the Option vests as to one-forty-eighth (1/48) of the shares of common stock subject to the Option each calendar month for forty-eight (48) months, counted from the Option's date of grant. In all other respects, the Option is to be governed by the terms of the Plan, including the option agreement and grant notice thereunder.

V.

SEVERANCE AND CHANGE IN CONTROL BENEFITS

I. Severance Benefits.

If Executive's employment terminates due to a Covered Termination after the date of execution of this Agreement, Executive shall receive any annual base salary and bonus compensation that has accrued but is unpaid as of the date of such Covered Termination. Within thirty (30) days following the date on which the Release described in Section 4.4 below becomes effective in accordance with its terms, Executive shall also receive a lump sum payment equal to the sum of (i) one hundred percent (100%) of Executive's annual base salary as in effect during the last regularly scheduled payroll period immediately preceding the Covered Termination and (ii) one hundred percent (100%) of Executive's Target Bonus in effect for the year in which Executive's employment terminates, all of the foregoing subject to applicable tax withholding. In addition, following a Covered Termination, Executive and Executive's covered dependents shall be eligible to continue their health care benefit coverage as permitted by COBRA (Internal Revenue Code Section 4980B) at the same cost to Executive as in effect immediately prior to the Covered Termination for the one (1)-year period following the Covered Termination. Executive shall be entitled to maintain coverage for Executive and Executive's eligible dependents at Executive's own expense or the balance of the period that Executive is entitled to coverage under COBRA.

II. Acceleration of Vesting of Outstanding Options.

If Executive's employment with the Company terminates due to a Covered Termination within eighteen (18) months following the effective date of a Change in Control, then any options to purchase the Company's common stock granted to Executive (including without limitation the Option) shall become immediately fully vested and exercisable as of the date of such Covered Termination.

III. Parachute Payments.

If any payment or benefit Executive would receive in connection with a Change in Control from the Company or otherwise ("Payment") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then such Payment shall be reduced to the Reduced Amount. The "Reduced Amount" shall be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax or (y) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt, on an after-tax basis, of the greater amount of the Payment

notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting "parachute payments" is necessary so that the Payment equals the Reduced Amount, reduction shall occur in the following order unless Executive elects in writing a different order (provided, however, that such election shall be subject to Company approval if made on or after the effective date of the Change in Control): reduction of cash payments; cancellation of accelerated vesting of stock awards; reduction of employee benefits. In the event that acceleration of vesting of stock award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's stock awards unless Executive elects in writing a different order for cancellation.

The accounting firm engaged by the Company for general audit purposes as of the day prior to the effective date of the Change in Control shall perform the foregoing calculations. If the accounting firm so engaged by the Company is serving as accountant or auditor for the individual, entity or group effecting the Change in Control, the Company shall appoint a nationally recognized accounting firm to make the determinations required hereunder. The Company shall bear all expenses with respect to the determinations by such accounting firm required to be made hereunder.

The accounting firm engaged to make the determinations hereunder shall provide its calculations, together with detailed supporting documentation, to the Company and Executive within fifteen (15) calendar days after the date on which Executive's right to a Payment is triggered (if requested at that time by the Company or Executive) or such other time as requested by the Company or Executive. If the accounting firm determines that no Excise Tax is payable with respect to a Payment, either before or after the application of the Reduced Amount, it shall furnish the Company and Executive with an opinion reasonably acceptable to Executive that no Excise Tax will be imposed with respect to such Payment. Any good faith determinations of the accounting firm made hereunder shall be final, binding and conclusive upon the Company and Executive.

IV. Release.

Upon the occurrence of a Covered Termination, and prior to the receipt of any benefits under Section 4.1 (except pursuant to the first sentence thereof) and Section 4.2 on account of the occurrence of such Covered Termination, Executive shall execute a Release (the "Release") in the form attached hereto as Exhibit A or Exhibit B, as appropriate. Such Release shall specifically relate to all of Executive's rights and claims in existence at the time of such execution and shall confirm Executive's obligations under the Company's standard form of proprietary information agreement. It is understood that Executive has a certain period to consider whether to execute such Release, and Executive may revoke such Release within seven (7) business days after execution. In the event Executive does not execute such Release within the applicable period, or if Executive revokes such Release within the subsequent seven (7) business day period, none of the aforesaid benefits shall be payable under this Agreement and this Agreement shall be null and void.

V. Mitigation.

Executive shall not be required to mitigate damages or the amount of any payment provided under this Agreement by seeking other employment or otherwise, nor shall the amount of any payment provided for under this Agreement be reduced by any compensation earned by Executive as a result of employment by another employer or by any retirement benefits received by Executive after the date of the Covered Termination, or otherwise.

VI. PROPRIETARY INFORMATION OBLIGATIONS

VII. Agreement.

Executive agrees to execute and abide by the Proprietary Information and Inventions Agreement attached hereto as Exhibit C.

VIII. Remedies.

Executive's duties under the Proprietary Information and Inventions Agreement shall survive termination of Executive's employment with the Company and the termination of this Agreement. Executive acknowledges that a remedy at law for any breach or threatened breach by Executive of the provisions of the Proprietary Information and Inventions Agreement would be inadequate, and Executive therefore agrees that the Company shall be entitled to injunctive relief in case of any such breach or threatened breach.

IX.

OUTSIDE ACTIVITIES

- X. Except with the prior written consent of the Board, Executive shall not during the term of this Agreement undertake or engage in any other employment, occupation or business enterprise, other than ones in which Executive is a passive investor. Executive may engage in civic and not-for-profit activities so long as such activities do not materially interfere with the performance of Executive's duties hereunder.
- XI. During the term of Executive's employment by the Company, except on behalf of the Company, Executive shall not directly or indirectly, whether as an officer, director, stockholder, partner, proprietor, associate, representative, consultant, or in any capacity whatsoever engage in, become financially interested in, be employed by or have any business connection with any other person, corporation, firm, partnership or other entity whatsoever which were known by Executive to compete directly with the Company, throughout the world, in any line of business engaged in (or planned to be engaged in) by the Company; provided, however, that anything above to the contrary notwithstanding, Executive may own, as a passive investor, securities of any competitor corporation, so long as Executive's direct holdings in any one such corporation shall not in the aggregate constitute more than 1% of the voting stock of such corporation.

XII.

noninterference

While employed by the Company, and for one (1) year immediately following the date on which Executive terminates employment or otherwise ceases providing services to the Company, Executive agrees not to interfere with the business of the Company by soliciting or attempting to solicit any employee of the Company to terminate such employee's employment in order to become an employee, consultant or independent contractor to or for any competitor of the Company. Executive's duties under this Article 7 shall survive termination of Executive's employment with the Company and the termination of this Agreement.

XIII.

general provisions

XIV. Notices.

Any notices provided hereunder must be in writing and shall be deemed effective upon the earlier of personal delivery (including personal delivery by telex) or the third day after mailing by first class mail, to the Company at its primary office location and to Executive at Executive's address as listed on the Company payroll.

XV. Severability.

Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

XVI. Waiver.

If either party should waive any breach of any provisions of this Agreement, they shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

XVII. Complete Agreement.

This Agreement and its Exhibit A, Exhibit B and Exhibit C constitute the entire agreement between Executive and the Company and are the complete, final, and exclusive embodiment of their agreement with regard to this subject matter; *provided, however*, that this Agreement shall not supersede the letter agreement entered into between Executive and the Company on June 11, 1998, and in the event of any inconsistency between the terms of this Agreement and those of said side letter agreement, the terms of the latter shall control. They are entered into without reliance on any promise or representation other than those expressly contained herein or therein, and they cannot be modified or amended except in a writing signed by an officer of the Company.

XVIII. Counterparts.

This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

XIX. Headings.

The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

XX. Successors and Assigns.

This Agreement is intended to bind and inure to the benefit of and be enforceable by Executive and the Company, and their respective successors, assigns, heirs, executors and administrators, except that Executive may not assign any of Executive's duties hereunder and Executive may not assign any of Executive's rights hereunder, without the written consent of the Company, which shall not be withheld unreasonably.

XXI. Arbitration.

Unless otherwise prohibited by law or specified below, all disputes, claims and causes of action, in law or equity, arising from or relating to this Agreement or its enforcement, performance, breach, or interpretation shall be resolved solely and exclusively by final and binding arbitration held in San Francisco County, California through Judicial Arbitration & Mediation Services/Endispute ("JAMS") under the then existing JAMS arbitration rules. However, nothing in this section is intended to prevent either party from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Each party in any such arbitration shall be responsible for its own attorneys' fees, costs and necessary disbursement; *provided, however*, that if one party refuses to arbitrate and the other party seeks to compel arbitration by court order, if such other party prevails, it shall be entitled to recover reasonable attorneys' fees, costs and necessary disbursements. Pursuant to California Civil Code Section 1717, each party warrants that it was represented by counsel in the negotiation and execution of this Agreement, including the attorneys' fees provision herein.

XXII. Attorneys' Fees.

If either party hereto brings any action to enforce rights hereunder, each party in any such action shall be responsible for its own attorneys' fees and costs incurred in connection with such action.

XXIII. Choice of Law.

All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California.

XXIV.

XXV. Amended and Restated Agreement.

This Agreement shall supersede in its entirety the Prior Agreement as of the Effective Time.

In Witness Whereof

, the parties have executed this Agreement on the day and year first above written.

Axys Pharmaceuticals, Inc.

By: /s/ Paul J. Hastings

Date: March 27, 2001

Accepted and agreed this
27th day of March, 2001

/s/ William J. Newell

William J. Newell

Exhibit A: Release (Individual Termination)

Exhibit B: Release (Group Termination)

Exhibit C: Proprietary Information and Inventions Agreement

Exhibit A

**RELEASE
(Individual Termination)**

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.**" I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; emotional distress; and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have twenty-one (21) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; and (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth (8th) day after this Release is executed by me.

William J. Newell

Date: _____

Exhibit B
RELEASE
(Group Termination)

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.**" I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; emotional distress; and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have forty-five (45) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth day (8th) after this Release is executed by me; and (F) I have received with this Release a detailed list of the job titles and ages of all employees who were terminated in this group termination and the ages of all employees of the Company in the same job classification or organizational unit who were not terminated.

William J. Newell

Date: _____

Exhibit C

Proprietary Information and Inventions Agreement

**AMENDED AND RESTATED
EXECUTIVE EMPLOYMENT AGREEMENT**

This Executive Employment Agreement ("Agreement") is entered into as of the 27th day of March, 2001 (the "Effective Date"), by and between David E. Riggs ("Executive") and Axys Pharmaceuticals, Inc. (the "Company").

Whereas

, the Company desires to employ Executive to provide personal services to the Company, and wishes to provide Executive with certain compensation and benefits in return for Executive's services;

Whereas

, Executive wishes to be employed by the Company and provide personal services to the Company in return for certain compensation and benefits; and

Whereas

, Executive and the Company wish to amend and restate that Employment Agreement entered into between the two parties as of August 9, 2000 .

Now, Therefore

, in consideration of the mutual promises and covenants contained herein, it is hereby agreed by and between the parties hereto as follows:

**I.
DEFINITIONS**

For purposes of the Agreement, the following terms are defined as follows:

1. "**Board**" means the Board of Directors of the Company.
2. "**Cause**" means:
 - a. Executive's intentional action or intentional failure to act that was performed in bad faith and to the material detriment of the business of the Company;
 - b. Executive's intentional refusal or intentional failure to act in accordance with any lawful and proper direction or order of the Board or the appropriate individual to whom Executive reports;
 - c. Executive's willful and habitual neglect of Executive's duties of employment;
 - d. Executive's violation of any noncompetition or noninterference agreement that Executive has entered into with the Company; or
 - e. Executive's conviction of a felony crime involving moral turpitude;

provided, however

, that if any of the foregoing events under clauses (a), (b), (c) or (d) above is capable of being cured, the Company shall provide written notice to Executive describing the nature of such event and Executive shall thereafter have ten (10) business days to cure such event.

6. "**Change in Control**" means the occurrence of any of the following events:
 - a. a dissolution, liquidation or sale of all or substantially all of the assets of the Company;
 - b. a merger or consolidation in which the Company is not the surviving corporation;
 - c. a reverse merger in which the Company is the surviving corporation but shares outstanding immediately preceding the merger are converted by virtue of the merger into other property, whether in the form of securities, cash or otherwise; or
 - d. the acquisition by any person, entity or group within the meaning of Section 13(d) or 14(d) of the Exchange Act, or any comparable successor provisions (excluding any employee benefit plan, or related trust, sponsored or maintained by the Company or any Affiliate of the Company) of the beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act, or comparable successor rule) of securities of the Company representing at least fifty percent (50%) of the combined voting power entitled to vote in the election of directors.
5. "**Company**" means Axys Pharmaceuticals, Inc. or, following a Change in Control, the surviving entity resulting from such transaction.
6. "**Covered Termination**" means (i) an Involuntary Termination Without Cause that occurs at any time, without regard to a Change in Control, or (ii) a voluntary termination for Good Reason that occurs on or after the effective date of a Change in Control.
7. "**Exchange Act**" means the Securities Exchange Act of 1934, as amended.
8. "**Good Reason**" means that any of the following are undertaken without Executive's express written consent:
 - a. the assignment to Executive of any duties or responsibilities that results in any diminution or adverse change of Executive's position, status, circumstances of employment or scope of responsibilities;
 - b. a reduction by the Company in Executive's annual base salary as in effect on the effective date of the Change in Control;
 - c. the taking of any action by the Company that would adversely affect Executive's participation in, or reduce Executive's benefits under, the Company's benefit plans (including equity benefits) as of the effective date of the Change in Control, except to the extent the benefits of all other executives of the Company are similarly reduced;
 - d. a relocation of Executive's principal office to a location more than forty (40) miles from the location at which Executive was performing Executive's duties as of the effective date of the Change in Control, except for required travel by Executive on the Company's business;

- e. any material breach by the Company of any provision of this Agreement; or
 - f. any failure by the Company to obtain the assumption of this Agreement by any successor or assign of the Company.
7. **"Involuntary Termination Without Cause"** means Executive's dismissal or discharge other than for Cause. The termination of Executive's employment as a result of Executive's death or disability will not be deemed to be an Involuntary Termination Without Cause.

III.

Employment by the Company

IV. Position and Duties.

Subject to terms set forth herein, the Company agrees to employ Executive in the position of Senior Vice President and Chief Financial Officer and Executive hereby accepts such employment. Executive shall serve in an executive capacity and shall perform such duties as are customarily associated with the position of Senior Vice President and Chief Financial Officer and such other duties as are assigned to Executive by the Company's Chief Executive Officer. Executive will report to the Chief Executive Officer. During the term of Executive's employment with the Company, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention (except for vacation periods as set forth herein and reasonable periods of illness or other incapacities permitted by the Company's general employment policies or as otherwise set forth in this Agreement) to the business of the Company.

V. Employment at Will.

Both the Company and Executive shall have the right to terminate Executive's employment with the Company at any time, with or without Cause, and without prior notice. If Executive's employment with the Company is terminated, Executive will be eligible to receive severance benefits to the extent provided in this Agreement.

VI. Employment Policies.

The employment relationship between the parties shall also be governed by the general employment policies and practices of the Company, including those relating to protection of confidential information and assignment of inventions, except that when the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

VII.

Compensation

I. Base Salary.

Executive shall receive for services to be rendered hereunder an annual base salary of \$235,000.00, payable on the regular payroll dates of the Company, subject to increase in the sole discretion of the Board of Directors.

II. Annual Bonus.

Executive will be eligible for an annual bonus up to thirty percent (30%) of Executive's then current annual base salary upon achievement of reasonable goals specified by the Board (the "Target Bonus"). Such goals shall be set forth in writing by the Board prior to the close of the first quarter of each fiscal year of the Company, with fifty percent (50%) of such goals to be dependent on Executive's individual performance and fifty percent (50%) of such goals to be dependent on the Company's performance.

III. Standard Company Benefits.

Executive shall be entitled to all rights and benefits for which Executive is eligible under the terms and conditions of the standard Company benefits and compensation practices that may be in effect from time to

time and are provided by the Company to its executive employees generally, certain of which are described in that certain letter dated August 3, 2000 from John Walker to Executive.

IV. Compensatory Stock Award.

The Executive has been granted an option to acquire Two Hundred Thousand (200,000) shares of the common stock of the Company (the "Option"). Subject to Board approval, the Option will be granted with the following features. The Option has been granted pursuant to the Company's 1997 Equity Incentive Plan. The Option will be an incentive stock option for purposes of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), to the extent permitted under the Code. The exercise price per share of the Option is equal to one hundred percent (100%) of the fair market value of the Company's common stock, as determined pursuant to the Company's 1997 Equity Incentive Plan, on the date of grant. Subject to Executive's continued employment by the Company, the Option will vest as to one-eighth (1/8) of the shares of common stock subject to the Option on the six month anniversary of the first day of Executive's employment and thereafter the remainder of the shares of common stock subject to the Option will vest monthly as to one-forty-second (1/42) of the shares of common stock subject to the Option for the following forty-two (42) months. In all other respects, the Option is governed by the terms of the Plan, including the option agreement and grant notice thereunder.

V.

SEVERANCE and CHANGE IN CONTROL BENEFITS

I. Severance Benefits.

If Executive's employment terminates due to a Covered Termination after the date of execution of this Agreement, Executive shall receive any annual base salary and bonus compensation that has accrued but is unpaid as of the date of such Covered Termination. Within thirty (30) days following the date on which the Release described in Section 4.4 below becomes effective in accordance with its terms, Executive shall also receive a lump sum payment equal to the sum of (i) one hundred percent (100%) of Executive's annual base salary as in effect during the last regularly scheduled payroll period immediately preceding the Covered Termination and (ii) one hundred percent (100%) of Executive's Target Bonus in effect for the year in which Executive's employment terminates, all of the foregoing subject to applicable tax withholding. In addition, following a Covered Termination, Executive and Executive's covered dependents shall be eligible to continue their health care benefit Coverage as permitted by COBRA (Internal Revenue Code Section 4980B) at the same cost to Executive as in effect immediately prior to the Covered Termination for the one (1)-year period following the Covered Termination. Executive shall be entitled to maintain coverage for Executive and Executive's eligible dependents at Executive's own expense or the balance of the period that Executive is entitled to coverage under COBRA.

II. Acceleration of Vesting of Outstanding Options.

If Executive's employment with the Company terminates due to a Covered Termination within eighteen (18) months following the effective date of a Change in Control, then any options to purchase the Company's common stock granted to Executive (including without limitation the Option) shall become immediately fully vested and exercisable as of the date of such Covered Termination.

III. Parachute Payments.

If any payment or benefit Executive would receive in connection with a Change in Control from the Company or otherwise ("Payment") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then such Payment shall be reduced to the Reduced Amount. The "Reduced Amount" shall be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax or (y) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state

and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt, on an after-tax basis, of the greater amount of the Payment notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting "parachute payments" is necessary so that the Payment equals the Reduced Amount, reduction shall occur in the following order unless Executive elects in writing a different order (provided, however, that such election shall be subject to Company approval if made on or after the effective date of the Change in Control): reduction of cash payments; cancellation of accelerated vesting of stock awards; reduction of employee benefits. In the event that acceleration of vesting of stock award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's stock awards unless Executive elects in writing a different order for cancellation.

The accounting firm engaged by the Company for general audit purposes as of the day prior to the effective date of the Change in Control shall perform the foregoing calculations. If the accounting firm so engaged by the Company is serving as accountant or auditor for the individual, entity or group effecting the Change in Control, the Company shall appoint a nationally recognized accounting firm to make the determinations required hereunder. The Company shall bear all expenses with respect to the determinations by such accounting firm required to be made hereunder.

The accounting firm engaged to make the determinations hereunder shall provide its calculations, together with detailed supporting documentation, to the Company and Executive within fifteen (15) calendar days after the date on which Executive's right to a Payment is triggered (if requested at that time by the Company or Executive) or such other time as requested by the Company or Executive. If the accounting firm determines that no Excise Tax is payable with respect to a Payment, either before or after the application of the Reduced Amount, it shall furnish the Company and Executive with an opinion reasonably acceptable to Executive that no Excise Tax will be imposed with respect to such Payment. Any good faith determinations of the accounting firm made hereunder shall be final, binding and conclusive upon the Company and Executive.

IV. Release.

Upon the occurrence of a Covered Termination, and prior to the receipt of any benefits under Section 4.1 (except pursuant to the first sentence thereof) and Section 4.2 on account of the occurrence of such Covered Termination, Executive shall execute a Release (the "Release") in the form attached hereto as Exhibit A or Exhibit B, as appropriate. Such Release shall specifically relate to all of Executive's rights and claims in existence at the time of such execution and shall confirm Executive's obligations under the Company's standard form of proprietary information agreement. It is understood that Executive has a certain period to consider whether to execute such Release, and Executive may revoke such Release within seven (7) business days after execution. In the event Executive does not execute such Release within the applicable period, or if Executive revokes such Release within the subsequent seven (7) business day period, none of the aforesaid benefits shall be payable under this Agreement and this Agreement shall be null and void.

V. Mitigation.

Executive shall not be required to mitigate damages or the amount of any payment provided under this Agreement by seeking other employment or otherwise, nor shall the amount of any payment provided for under this Agreement be reduced by any compensation earned by Executive as a result of employment by another employer or by any retirement benefits received by Executive after the date of the Covered Termination, or otherwise.

VI.

Proprietary Information Obligations

VII. Agreement.

Executive agrees to execute and abide by the Proprietary Information and Inventions Agreement attached hereto as Exhibit C.

VIII. Remedies.

Executive's duties under the Proprietary Information and Inventions Agreement shall survive termination of Executive's employment with the Company and the termination of this Agreement. Executive acknowledges that a remedy at law for any breach or threatened breach by Executive of the provisions of the Proprietary Information and Inventions Agreement would be inadequate, and Executive therefore agrees that the Company shall be entitled to injunctive relief in case of any such breach or threatened breach.

IX.

Outside Activities

- X. Except with the prior written consent of the Board, Executive shall not during the term of this Agreement undertake or engage in any other employment, occupation or business enterprise, other than ones in which Executive is a passive investor. Executive may engage in civic and not-for-profit activities so long as such activities do not materially interfere with the performance of Executive's duties hereunder.
- XI. During the term of Executive's employment by the Company, except on behalf of the Company, Executive shall not directly or indirectly, whether as an officer, director, stockholder, partner, proprietor, associate, representative, consultant, or in any capacity whatsoever engage in, become financially interested in, be employed by or have any business connection with any other person, corporation, firm, partnership or other entity whatsoever which were known by Executive to compete directly with the Company, throughout the world, in any line of business engaged in (or planned to be engaged in) by the Company; provided, however, that anything above to the contrary notwithstanding, Executive may own, as a passive investor, securities of any competitor corporation, so long as Executive's direct holdings in any one such corporation shall not in the aggregate constitute more than 1% of the voting stock of such corporation.

XII.

Noninterference

While employed by the Company, and for one (1) year immediately following the date on which Executive terminates employment or otherwise ceases providing services to the Company, Executive agrees not to interfere with the business of the Company by soliciting or attempting to solicit any employee of the Company to terminate such employee's employment in order to become an employee, consultant or independent contractor to or for any competitor of the Company. Executive's duties under this Article 7 shall survive termination of Executive's employment with the Company and the termination of this Agreement.

XIII.

General Provisions

XIV. Notices.

Any notices provided hereunder must be in writing and shall be deemed effective upon the earlier of personal delivery (including personal delivery by telex) or the third day after mailing by first class mail, to the Company at its primary office location and to Executive at Executive's address as listed on the Company payroll.

XV. Severability.

Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be

reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

XVI. Waiver.

If either party should waive any breach of any provisions of this Agreement, they shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

XVII. Complete Agreement.

This Agreement and its Exhibit A, Exhibit B and Exhibit C constitute the entire agreement between Executive and the Company and are the complete, final, and exclusive embodiment of their agreement with regard to this subject matter. They are entered into without reliance on any promise or representation other than those expressly contained herein or therein, and they cannot be modified or amended except in a writing signed by an officer of the Company.

XVIII. Counterparts.

This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

XIX. Headings.

The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

XX. Successors and Assigns.

This Agreement is intended to bind and inure to the benefit of and be enforceable by Executive and the Company, and their respective successors, assigns, heirs, executors and administrators, except that Executive may not assign any of Executive's duties hereunder and Executive may not assign any of Executive's rights hereunder, without the written consent of the Company, which shall not be withheld unreasonably.

XXI. Arbitration.

Unless otherwise prohibited by law or specified below, all disputes, claims and causes of action, in law or equity, arising from or relating to this Agreement or its enforcement, performance, breach, or interpretation shall be resolved solely and exclusively by final and binding arbitration held in San Francisco County, California through Judicial Arbitration & Mediation Services/Endispute ("JAMS") under the then existing JAMS arbitration rules. However, nothing in this section is intended to prevent either party from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Each party in any such arbitration shall be responsible for its own attorneys' fees, costs and necessary disbursement; *provided, however,* that if one party refuses to arbitrate and the other party seeks to compel arbitration by court order, if such other party prevails, it shall be entitled to recover reasonable attorneys' fees, costs and necessary disbursements. Pursuant to California Civil Code Section 1717, each party warrants that it was represented by counsel in the negotiation and execution of this Agreement, including the attorneys' fees provision herein.

XXII. Attorneys' Fees.

If either party hereto brings any action to enforce rights hereunder, each party in any such action shall be responsible for its own attorneys' fees and costs incurred in connection with such action.

XXIII.

XXIV. Choice of Law.

All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California.

XXV. Amended and Restated Agreement.

This Agreement shall supersede in its entirety the Prior Agreement as of the Effective Date.

In Witness Whereof

, the parties have executed this Agreement on the day and year first above written.

Axys Pharmaceuticals, Inc.

By: /s/ Paul J. Hastings

Date: March 27, 2001

Accepted and agreed this
27th day of March, 2001

/s/ David E. Riggs

David E. Riggs

Exhibit A: Release (Individual Termination)

Exhibit B: Release (Group Termination)

Exhibit C: Proprietary Information and Inventions Agreement

Exhibit A

**RELEASE
(Individual Termination)**

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.**" I hereby expressly waive and relinquish all rights and benefits under that section

and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; emotional distress; and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have twenty-one (21) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; and (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth (8th) day after this Release is executed by me.

David E. Riggs

Date: _____

Exhibit B

RELEASE
(Group Termination)

Certain capitalized terms used in this Release are defined in the Executive Employment Agreement (the "Agreement") which I have executed and of which this Release is a part.

I hereby confirm my obligations under the Company's proprietary information and inventions agreement.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: **"A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."** I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, in consideration of benefits I will receive under the Agreement, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys' fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed (other than any claim for indemnification I may have as a result of any third party action against me based on my employment with the Company), arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the date I execute this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; emotional distress; and breach of the implied covenant of good faith and fair dealing; *provided, however*, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me pursuant to the Company's indemnification obligation pursuant to agreement or applicable law.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may arise on or after the date I execute this Release; (B) I have the right to consult with an attorney prior to executing this Release; (C) I have forty-five (45) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release by the parties to revoke the Release; (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth day (8th) after this Release is executed by me; and (F) I have received with this Release a detailed list of the job titles and ages of all employees who were terminated in this group termination and the ages of all employees of the Company in the same job classification or organizational unit who were not terminated.

Date: _____

Exhibit C

Proprietary Information and Inventions Agreement

EMPLOYMENT AGREEMENT

This Employment Agreement

("Agreement") is entered into as of this 23rd day of January, 2001 (the "Effective Date"), by and between **Paul Hastings** ("Executive") and **Axys Pharmaceuticals, Inc.**, a Delaware corporation (the "Company").

Whereas

, the Company desires to employ Executive to provide personal services to the Company, and wishes to provide Executive with certain compensation and benefits in return for such services; and

Whereas

, Executive wishes to be employed by the Company and provide personal services to the Company in return for certain compensation and benefits.

Now, Therefore

, in consideration of the mutual promises and covenants contained herein, it is hereby agreed by and between the parties hereto as follows:

1. Employment By The Company.

1.1

The Company agrees to employ Executive in the position of President and Chief Executive Officer of the Company. During Executive's employment with the Company, Executive will devote his best efforts and substantially all of his business time and attention to the business of the Company.

1.2

Executive shall serve in an executive capacity and shall perform such duties as are customarily associated with his then current titles, consistent with the Bylaws of the Company and as required by the Company's Board of Directors (the "Board").

1.3

The employment relationship between the parties shall also be governed by the general employment policies and practices of the Company, including those relating to protection of confidential information and assignment of inventions, except that when the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

1.4

The Company and Executive each acknowledge that either party has the right to terminate Executive's employment with the Company at any time for any reason whatsoever, with or without Cause or advance notice. This at-will employment relationship cannot be changed except in a writing signed by both Executive and a majority of the Board.

2. Compensation.

2.1 Salary.

Executive shall receive, for services to be rendered under this Agreement, an annualized base salary ("Base Salary") equal to \$400,000. Such Base Salary shall commence as of the Effective Date, and shall be payable in installments consistent with the Company's payroll policies. Executive's Base Salary shall be reviewed at least annually by the Board, and in the Board's sole discretion, may be increased at any time.

2.2 Termination.

(a) In the event Executive's employment terminates for any reason other than death, disability, a termination upon a Change of Control, a voluntary termination not for Good Reason, or a termination for Cause, upon execution of an effective release in the form attached hereto as Exhibit A: (i) Executive shall receive twelve (12) monthly payments each equal in amount to one-twelfth ($1/12^{\text{th}}$) of the sum of (x) the full amount of one year's Target Bonus (at the level in effect at that time) and (y) his then Base Salary; (ii) additional Stock Options (as defined below) shall, immediately prior to Executive's termination of employment, become vested with respect to that number of shares which would have become vested had Executive remained in continuous service with the Company for an additional twelve (12) months following the date of Executive's termination of employment; and (iii) for a period of twelve (12) months (or until comparable benefits coverage becomes available to Executive, if sooner), the Company shall pay the costs associated with the continuation of Executive's medical, dental, and vision benefits under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA") as in effect immediately prior to Executive's termination of employment.

(b)

For purposes of this Agreement, "Good Reason" means that any of the following are undertaken without Executive's express written consent: (i) the assignment to Executive of any duties or responsibilities which result in any diminution or adverse change of Executive's position, status or circumstances of employment; (ii) a reduction by the Company in Executive's Base Salary; (iii) the taking of any action by the Company which would adversely affect Executive's participation in, or reduce Executive's benefits under, the Company's benefit plans (including equity benefits) as of the time this Agreement is executed, except to the extent the benefits of all other executive officers of the Company are similarly reduced; (iv) a relocation of Executive's principal office to a location more than forty (40) miles from 180 Kimball Way, South San Francisco, California, except for required travel by Executive on the Company's business; (v) any breach by the Company of any material provision of this Agreement; or (vi) any failure by the Company to obtain the assumption of this Agreement by any successor or assign of the Company. For purposes of this Agreement, "Cause" means: (V) an intentional action or intentional failure to act by Executive which was performed in bad faith and to the material detriment of the Company; (W) Executive intentionally refuses or intentionally fails to act in accordance with any lawful and proper direction or order of the Board; (X) Executive willfully and habitually neglects the duties of employment; (Y) Executive violates Section 4 or Section 5 of this Agreement or (Z) Executive is convicted of a felony crime involving moral turpitude; provided, however, that in the event that any of the foregoing events under clauses (V), (W), (X) or (Y) above is capable of being cured, the Company shall provide written notice to Executive describing the nature of such event and Executive shall thereafter have ten (10) business days to cure such event.

(c)

In the event of Executive's termination upon a Change of Control, upon execution of an effective release in the form attached hereto as Exhibit A: (i) Executive shall, within seven (7) days of such termination, one lump sum payment equivalent to eighteen (18) months of his then Base Salary, plus a pro rata share of his Target Bonus for the calendar year in which such termination occurs, plus the amount of eighteen months of his Target Bonus, minus standard withholdings and deductions; (ii) all of Executive's outstanding Stock Options shall become fully vested and

exercisable immediately upon the occurrence of such termination; and (iii) for a period of eighteen (18) months (or until comparable benefits coverage becomes available to Executive, if sooner), the Company shall pay the costs associated with the continuation of Executive's medical dental, and vision benefits under COBRA as in effect immediately prior to Executive's termination of employment. For purposes of this paragraph, both Executive's "Base Salary" and "Target Bonus" shall be the greater of those amounts in effect either immediately prior to the Change of Control or the termination of Executive's employment.

(d)

A termination upon a Change of Control shall be deemed to occur for purposes of this Agreement in the event of a Change of Control (as defined below) upon which or within thirteen (13) months following the consummation of which: Executive does not continue to render services as President and Chief Executive Officer of the Company (or any successor or surviving corporation) or Executive terminates employment with the Company (or a successor or surviving corporation) for Good Reason. For purposes of this Agreement, a Change of Control means (i) any sale, merger, consolidation, tender offer or similar acquisition of shares, or other transaction or series of related transactions (each a "Transaction") as a result of which at least a majority of the voting power of the Company is not held, directly or indirectly, by the persons or entities who held the Company's securities with voting power before such Transaction (provided, however, that any person who acquired voting securities of the Company in contemplation of the Transaction and who immediately after such Transaction possesses direct or indirect ownership of at least ten percent (10%) of the securities of the Company or the surviving entity (or if the Company or the surviving entity is a controlled affiliate of another entity, then of such controlling entity) shall not be included in the group of those persons or entities who held the Company's securities with voting power before such Transaction); (ii) a sale or other disposition of all or a substantial part of the Company's assets, whether in one transaction or a series of related transactions; or (iii) individuals who on the date hereof constitute the Board and any new director (other than a director designated by a person or entity who has entered into an agreement to effect a transaction described in clause (i) or (ii) above) whose nomination and/or election to the Board was approved by a vote of at least a majority of the directors then still in office who either were directors on the date hereof or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority of the Board.

2.3

Golden Parachute Taxes. Notwithstanding anything contained in this Agreement to the contrary, to the extent that payments and benefits provided under this Agreement to Executive and benefits provided to, or for the benefit of, Executive under any other Company plan or agreement (such payments or benefits are collectively referred to as the "Payments") would be subject to the excise tax (the "Excise Tax") imposed under Section 4999 of the Internal Revenue Code of 1986, as amended (the "Code"), the Payments shall be reduced (but not below zero) to the extent necessary so that no Payment to be made or benefit to be provided to the Executive shall be subject to the Excise Tax, but only if, by reason of such reduction, the net after-tax benefit received by Executive shall exceed the net after-tax benefit received by him if no such reduction was made. For purposes of this Section 2.3, "net after-tax benefit" shall mean (a) the Payments which Executive receives or is then entitled to receive from the Company that would constitute "parachute payments" within the meaning of Section 280G of the Code, less (b) the amount of all federal, state and local income taxes payable with respect to the foregoing calculated at the maximum marginal income tax rate for each year in which the foregoing shall be paid Executive (based on the rate in effect for such year as set forth in the Code as in effect at the time of the first payment of the foregoing), less (c) the amount of excise taxes imposed with respect to the payments and benefits described in (a) above by Section 4999 of the Code. The foregoing determination will be made by the a nationally recognized accounting firm (the "Accounting Firm") selected by the Company (which may be, but will not be required to be, the Company's independent auditors). The Company will direct the Accounting Firm to submit its determination and detailed supporting calculations to both the Executive and the Company within fifteen (15) days after his date of termination of employment. If the Accounting Firm determines that such reduction is required by this Section 2.3, the Executive, in his sole and absolute discretion, may determine which Payments shall be reduced to the extent necessary so that no portion thereof shall be subject to the excise tax imposed by Section 4999 of

the Code, and the Company shall pay such reduced amount to him. The fees and expenses of the Accounting Firm for its services in connection with the determinations and calculations contemplated by this Section 2.3 will be borne by the Company.

2.4 Annual Bonus.

Executive will be eligible for an annual bonus up to fifty percent (50%) of Executive's then current Base Salary upon achievement of reasonable goals specified by the Board (the "Target Bonus"). Such goals shall be set forth in writing by the Board prior to the close of the first quarter of each fiscal year of the Company, with fifty percent (50%) of such goals to be dependent on Executive's individual performance and fifty percent (50%) of such goals to be dependent on the Company's performance.

2.5 Employee Loan.

On the Effective Date, the Company agrees to loan Executive \$300,000 pursuant to the terms of the form of promissory note attached hereto as Exhibit B (the "Note"). The Note is full-recourse, secured by any shares of the Company's common stock acquired by Executive upon the exercise of any Stock Options, bears interest at the rate of 5.61% per annum and is payable in full on the earlier of (a) thirty (30) days following Executive's termination of employment (other than Executive's termination of employment for Good Reason or Executive's termination of employment without Cause or due to death or disability) or (b) January 2, 2004. Provided that Executive continues to render services to the Company through each such date, the Company will forgive one thirty-sixth (1/36th) of the principal amount of the Note and any accrued interest thereon on the first day of each calendar month following the Effective Date, such that (provided Executive has not ceased to render services to the Company as of each such date) the Note shall be forgiven in its entirety on January 1, 2004. In the event Executive is terminated without Cause or due to death or disability or that Executive terminates his employment for Good Reason, the Company will concurrently therewith forgive all remaining principal and interest due under the Note.

2.6 Medical and Dental Coverage.

The Company shall provide Executive with the medical and dental coverage which is no less favorable than that provided to any other executive of the Company.

2.7 Standard Company Benefits.

Executive shall be entitled to all other rights and benefits for which he is eligible under the terms and conditions of such benefits which may be in effect from time to time and provided by the Company to its employees generally and/or to its management and executive employees in particular.

2.8 Expenses.

Executive shall be entitled to receive prompt reimbursement of all reasonable expenses incurred by Executive in performing Company services. Executive agrees to furnish the Company reasonably adequate records and other documentary evidence of such expenses for which Executive seeks reimbursement. Such expenses shall be accounted for under the policies and procedures established by the Company.

2.9 Vacation and Sick Leave.

Executive shall be entitled to vacation and to sick leave in accordance with policies as periodically established by the Company for Company officers. In addition, Executive shall be entitled, without loss of pay, to be absent voluntarily from the performance of employment duties for such periods of time and for such valid and legitimate reasons as the Board in its discretion may determine.

2.10 Stock Options.

Executive shall be granted options to purchase 500,000 shares of the Company's common stock (the "Time Vesting Options") at an exercise price equal to the fair market value of the Company's common stock as of the date of grant of such options. Provided Executive remains in continuous service with the Company as of the applicable vesting dates, twelve and one half percent (12-1/2%) of the Time Vesting Options shall vest upon the six (6) month anniversary of the Effective Date and the remaining Time Vesting Options shall vest at the rate of 1/42nd of such remaining options per month, such that one hundred percent (100%) of the Time Vesting Options shall be vested on the fourth (4th) anniversary of the Effective Date. The Time Vesting Options shall be treated as incentive stock options within the meaning of Section 422 of the Code to the maximum extent possible and shall become exercisable as they become vested, and the remaining portion of the Time Vesting Options shall become exercisable upon the date of grant of such options. The vested portion of all Stock Options which are not incentive stock options shall be transferable to family members to the maximum extent permitted by the Securities Act of 1933, as amended. Other terms and conditions of the Time Vesting Options shall be consistent with the terms of the Company's compensatory stock plan under which they are granted and as mutually agreed to by the Company and Executive. In addition to the Time Vesting Options, effective as of the Effective Date, Executive shall be granted non-statutory stock options to purchase 100,000 shares of the Company's common stock (the "Performance Vesting Options") at an exercise price equal to the fair market value of the Company's common stock as of the Effective Date. Provided Executive remains in continuous service with the Company through the seventh (7th) anniversary of the Effective Date, the Performance Vesting Options shall become vested and exercisable in their entirety as of the seventh (7th) anniversary of the Effective Date; provided however, that upon the determination by the Board of Directors that Executive has met by Executive's performance during 2001 at least seventy-five percent (75%) of certain performance goals to be established jointly by Executive and the Board and/or the Compensation Committee of the Board during the first quarter of calendar year 2001, the Performance Vesting Options shall vest and become exercisable pursuant to the schedule described above with respect to the Time Vesting Options as if governed by such schedule as of their date of grant. Other terms and conditions of the Performance Vesting Options shall be consistent with the terms of the Company's compensatory stock plan under which they are granted and as mutually agreed to by the Company and Executive. The Time Vesting Options and Performance Vesting Options, together with any additional options to purchase shares of the Company's common stock that Executive may be granted from time to time are referred to herein collectively as the "Stock Options." The Stock Options shall be granted by the Board or authorized committee of the Board, and shall be granted pursuant to, and except as provided herein shall be governed by, the terms of the Company's stock option plans and customary forms of stock option agreement as amended from time to time.

3. Confidential Information Obligations.

3.1 Agreement.

Executive agrees to execute and abide by Executive's Employment, Confidential Information and Invention Assignment Agreement ("Confidentiality Agreement"),

3.2 Remedies.

Executive's duties under the Confidentiality Agreement shall survive termination of his employment with the Company. Executive acknowledges that a remedy at law for any breach or threatened breach by him of the provisions of the Confidentiality Agreement would be inadequate, and he therefore agrees that the Company shall be entitled to injunctive relief in case of any such breach or threatened breach.

4. Outside Activities.

4.1

Except with the prior written consent of the Board, Executive will not during the term of this Agreement undertake or engage in any other employment, occupation or business enterprise, other than ones in which Executive is a passive investor. Executive may engage in civic and not-for-profit activities and may, upon notice to the Board, serve as a member of Boards of Directors of companies not deemed to be engaged in competition with the Company so long as such activities do not materially interfere with the performance of his duties hereunder, and the Company hereby agrees that Executive may serve as a director of RxMarketplace.com, ViaCell, and LXR without further notice to the Board.

4.2

Except as permitted by Section 4.3, Executive agrees not to acquire, assume, or participate in (directly or indirectly) any position, investment or interest known by him to be adverse or antagonistic to the Company, its business, or its prospects, financial or otherwise.

4.3

During the term of his employment by the Company, except on behalf of the Company, Executive will not have any direct or indirect business connection or interest, in any capacity whatsoever, with any other person or entity known by him to compete directly with the Company, throughout the world, in any line of business engaged in (or planned to be engaged in) by the Company. Nothing in this paragraph shall bar Executive from owning securities of any competitor corporation as a passive investor, so long as his aggregate direct holdings in any one such corporation shall not constitute more than 1% of the voting stock of that corporation.

5. Noninterference.

While employed by the Company, and for one (1) year immediately following the termination of Executive's employment, Executive agrees not to interfere with the Company's business by soliciting, attempting to solicit, inducing, or otherwise causing any employee of the Company to terminate his or her employment in order to become an employee, consultant, or independent contractor to or for any competitor of the Company. Executive agrees that this restriction is reasonably necessary to protect the Company's legitimate business interest in its substantial relationships with employees, consultants, and independent contractors and its valuable confidential business information.

6. General Provisions.

6.1 Notices.

Any notices provided hereunder must be in writing and shall be deemed effective upon the earlier of (i) personal delivery (including delivery by fax or overnight courier) or (ii) the third day after mailing by first-class mail, to the Company at its primary office location and to Executive at his address as then listed in the Company's payroll records.

6.2 Severability.

Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal, or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality, or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed and construed in such jurisdiction so as to render it enforceable under applicable law insofar as possible consistent with the intent of the parties.

6.3 Waiver.

If either party should waive any breach of any provisions of this Agreement, that party shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

6.4 Complete Agreement.

This Agreement and its Exhibits constitute the entire agreement between Executive and the Company and it is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes all prior letter agreements and understandings between the parties. It is entered into without reliance on any promise or representation other than those expressly contained herein, and it cannot be modified or amended except in a writing signed by both the Executive and at least one member of the Compensation Committee of the Board.

6.5 Counterparts.

This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

6.6 Headings.

The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

6.7 Successors and Assigns.

This Agreement is intended to bind and inure to the benefit of and be enforceable by Executive and the Company, and their respective successors, assigns, heirs, executors and administrators, except that Executive may not assign any duties hereunder and may not assign any rights hereunder without the written consent of the Company, which shall not be withheld unreasonably.

6.8 Choice of Law.

All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California, without regard to such state's conflict-of-laws rules.

6.9 Non-Publication.

The parties mutually agree not to disclose publicly the terms of this Agreement except to the extent that disclosure is mandated by applicable law or such disclosure is to the parties' respective attorneys, accountants other advisors, and immediate family.

6.10 Agreement Controls.

In the event of a conflict between the text of the Agreement and any summary, description or other information regarding the Agreement, the text of the Agreement shall control.

6.11 Attorneys' Fees.

If either party hereto brings any action to enforce his or its rights hereunder, each party in any such action shall be responsible for his or its costs and attorneys fees incurred in connection with such action.

6.12 Tax Withholding.

All payments made pursuant to this Agreement shall be subject to all applicable federal, state and local income and employment tax withholding.

6.13 Arbitration.

To ensure rapid and economical resolution of any and all disputes which may arise under this Agreement, the Company and Executive each agree that any and all disputes or controversies, whether of law or fact of any nature whatsoever (including, but not limited to, all state and federal statutory and common law discrimination claims), with the sole exception of those disputes which may arise from Executive's Confidentiality Agreement, arising from or regarding the interpretation, performance, enforcement or breach of this Agreement, or any other disputes or claims arising from or related to Executive's employment or the termination of his employment, shall be resolved by final and binding confidential arbitration conducted by Judicial Arbitration and Mediation Services Inc. ("JAMS") under the then existing JAMS Rules of Practice and Procedure; provided that the arbitrator shall: (a) have the authority to compel adequate discovery for the resolution of the dispute and to award such relief as would otherwise be permitted by law; and (b) issue a written arbitration decision including the arbitrator's essential findings and conclusions and a statement of the award. The Company shall pay all of Executives' JAMS arbitration fees. In addition to any other relief, the arbitrator may award to the prevailing party recovery of its attorneys' fees and costs. Nothing in this Agreement is intended to prevent either Executive or the Company from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration.

6.14 Right to Work.

As required by law, this offer of employment is subject to satisfactory proof of Executive's right to work in the United States.

6.15 No Duty to Seek Employment.

Executive and the Company acknowledge and agree that nothing contained in the Agreement shall be construed as requiring Executive to seek or accept alternative or replacement employment in the event of his termination of employment by the Company for any reason, and no payment or benefit payable hereunder shall be conditioned on Executive's seeking or accepting such alternative or replacement employment.

[Remainder of this page intentionally left blank]

In Witness Whereof

, the parties have executed this Agreement on the day and year first above written.

Axys Pharmaceuticals, Inc.

By: /s/ Douglas Altschuler

Name: Douglas Altschuler

Title: V.P./General Counselor

Accepted and agreed this
23rd day of January, 2001

/s/ Paul J. Hastings

Paul Hastings

Exhibit A

RELEASE

Certain capitalized terms used in this Release are defined in the Employment Agreement entered into as of _____, 2000 between Axys Pharmaceuticals, Inc. and me which I have reviewed.

I acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: **"A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."** I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to my release of any claims I may have against the Company.

Except as otherwise set forth in this Release, I hereby release, acquit and forever discharge the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, shareholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, known and unknown, suspected and unsuspected, disclosed and undisclosed, arising out of or in any way related to claims and demands directly or indirectly arising out of my employment with the Company or the termination of that employment, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of disputed compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, the federal Civil Rights Act of 1964, as amended; the federal Age Discrimination in Employment Act of 1967, as amended ("ADEA"); the federal Employee Retirement Income Security Act of 1974, as amended; the federal Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act, as amended; tort law; contract law; statutory law; common law; wrongful discharge; discrimination; fraud; defamation; and breach of the implied covenant of good faith and fair dealing; provided, however, that nothing in this paragraph shall be construed in any way to release the Company from its obligation to indemnify me from any third party action brought against me based on my employment with the Company, pursuant to the Company's by-laws, any applicable agreement or applicable law, or to reduce or eliminate any coverage I may have under the Company's director and officer liability policy, if any.

I acknowledge that I am knowingly and voluntarily waiving and releasing any rights I may have under ADEA. I also acknowledge that the consideration given under the Agreement for the waiver and release in the preceding paragraph hereof is in addition to anything of value to which I was already entitled. I further acknowledge that I have been advised by this writing, as required by the ADEA, that: (A) my waiver and release do not apply to any rights or claims that may

arise on or after the date I execute this Release; (B) I should consult with an attorney prior to executing this Release; (C) I have twenty-one (21) days to consider this Release (although I may choose to voluntarily execute this Release earlier); (D) I have seven (7) days following the execution of this Release to revoke this Release; and (E) this Release shall not be effective until the date upon which the revocation period has expired, which shall be the eighth day after this Release is executed by me.

Paul Hastings

Date: _____

AXYS PHARMACEUTICALS, INC.

PLEDGE AGREEMENT

THIS PLEDGE AGREEMENT is made and entered into as of _____, 2000 by Paul Hastings (the "Pledgor"), in favor of Axys Pharmaceuticals, Inc. (the "Secured Party").

RECITALS

- The Pledgor and the Secured Party have entered into that certain Promissory Note, dated as of _____, 2000 (as amended, modified and supplemented to date, the "Promissory Note"). All capitalized terms used herein which are not otherwise defined herein shall have the meanings ascribed to them in the Promissory Note.
- The Pledgor has been granted those certain options to acquire shares of common stock of the Secured Party as are described on Exhibit A hereto (such options, the "Pledged Options," and the shares of common stock which may be issued upon exercise of such options, the "Pledged Stock").
- As a condition to advancing funds to the Pledgor under the Promissory Note, the Secured Party has required that the Pledgor grant to the Secured Party a security interest in the Pledged Options and the Pledged Stock as security for the obligations of the Pledgor under the Promissory Note and any documents executed in connection therewith (collectively, the "Loan Documents").

AGREEMENT

NOW, THEREFORE, in consideration of the premises and in order to induce the Secured Party to advance funds to the Pledgor, the Pledgor hereby agrees with the Secured Party and grants as follows:

1. Pledge

. The Pledgor hereby pledges and grants to the Secured Party a security interest in the following collateral (the "Pledged Collateral"):

- a. the Pledged Options and the Pledged Stock and the certificates representing the Pledged Options and the Pledged Stock, and all dividends, cash, instruments, chattel paper and other rights, property or proceeds from time to time received, receivable or otherwise distributed in respect of or in exchange for any or all of the Pledged Options and the Pledged Stock; and
- b. all proceeds of the foregoing.

3. Security for Performance

. This Pledge Agreement (and all of the Pledged Collateral) secures the payment of the principal of and the interest on the advances made under the Promissory Note and the performance of the Pledgor's obligations pursuant to this Agreement and the other Loan Documents (the "Obligations").

4. Delivery of Pledged Collateral

. All certificates or instruments representing or evidencing the Pledged Collateral shall be delivered to and held by the Secured Party pursuant hereto and shall be accompanied by duly executed instruments of transfer or assignment in blank, all in form and substance satisfactory to the Secured Party. The Secured Party shall have the right, at any time in its discretion and without notice to Pledgor following the occurrence of an Event of Default, to transfer to or to register in the name of the Secured Party or any of its nominees any or all of the Pledged Collateral. In addition, the Secured Party shall have the right at any time to exchange certificates or instruments representing or evidencing Pledged Collateral for certificates or instruments of smaller or larger denominations.

5. Representations and Warranties

. Pledgor represents and warrants as follows:

- a. The delivery of the Pledged Options and, as applicable, the Pledged Stock to the Secured Party pursuant to this Pledge Agreement creates a valid and perfected first priority security interest in the Pledged Collateral (other than cash not in the possession of the Secured Party), securing the payment of the principle of and the interest on advances made under the Promissory Note and the performance of Pledgor's obligations pursuant to this Agreement and the other Loan Documents.
- b. No consent of any other party (including, without limitation, any creditor of the Pledgor) and no governmental approval is required either (i) for the pledge by the Pledgor of the Pledged Collateral pursuant to this Pledge Agreement or for the execution, delivery or performance of this Pledge Agreement by Pledgor or (ii) for the exercise by the Secured Party of the voting or other rights provided for in this Pledge Agreement or the remedies in respect of the Pledged Collateral pursuant to this Pledge Agreement (except as may be required in connection with such disposition by laws affecting the offering and sale of securities generally).

3. Further Assurances

. The Pledgor agrees that at any time and from time to time the Pledgor will promptly execute and deliver all further instruments and documents, and take all further action, that may be necessary or desirable or that the Secured Party may request, in order to perfect and protect any security interest granted or purported to be granted hereby or to enable the Secured Party to exercise and enforce its rights and remedies hereunder with respect to any Pledged Collateral and to carry out the provisions and purposes hereof.

4. Administration of Security

. The following provisions shall govern the administration of the Pledged Collateral:

- a. So long as no Event of Default shall have occurred:

- (i) The Pledgor shall be entitled to exercise any and all voting and other consensual rights pertaining to the Pledged Collateral or any part thereof for any purpose not inconsistent with the terms of this Pledge Agreement or the Promissory Note; provided, however, that the Pledgor shall not exercise or refrain from exercising any such right if, in the Secured Party's judgment, such action or inaction would have a material adverse effect on the value of the Pledged Collateral or any part thereof; and provided, further, that the Pledgor shall give the Secured Party at least thirty (30) days' written notice of the manner in which he intends to exercise, and the reasons therefor, or the reasons for refraining from exercising, any such right.

- (ii) The Pledgor shall be entitled to receive all cash dividends and other cash distributions paid or payable with respect to any of the Pledged Collateral. Any and all instruments and other property (other than cash or checks) received, receivable or otherwise distributed in respect of, or in exchange for, any Pledged Collateral, shall be, and shall be forthwith delivered to the Secured Party to hold as Pledged Collateral and shall, if received by the Pledgor, be received in trust for the benefit of the Secured Party, be segregated from the other property or funds of Pledgor, and be forthwith delivered to the Secured Party as Pledged Collateral in the same form as so received (with any necessary indorsement).

- b. Upon the occurrence of an Event of Default:

- (i) All rights of the Pledgor to exercise the voting and other consensual rights which he would otherwise be entitled to exercise pursuant to Section 6(a)(i) and to receive the dividends which he would otherwise be authorized to receive and retain pursuant to Section 6(a)(ii) shall cease, and all such rights shall, upon notice by the Secured Party to the Pledgor, become vested in the Secured Party who shall thereupon have the sole right to exercise such voting and other consensual rights and the sole right to receive and hold as Pledged Collateral such dividends (and to the extent permissible, apply them to the Obligations of Pledgor).

- (ii) All dividends which are received by the Pledgor contrary to the provisions of paragraph (i) of this Section 6(b) shall be received in trust for the benefit of the Secured Party, shall be segregated from other funds of the

Pledgor and shall be forthwith paid over to the Secured Party as Pledged Collateral in the same form as so received (with any necessary indorsement).

3. Transfers and Other Liens; Additional Shares

. The Pledgor agrees that he will not, except as permitted by this Pledge Agreement or the Promissory Note: (i) sell or otherwise dispose of, or grant any option with respect to, any of the Pledged Collateral, (ii) create or permit to exist any lien upon or with respect to any of the Pledged Collateral except pursuant to this Pledge Agreement, or (iii) enter into any other contractual obligations which may restrict or inhibit the Secured Party's rights or ability to sell or otherwise dispose of the Pledged Collateral or any part thereof after the occurrence of an Event of Default.

4. The Secured Party Appointed Attorney-in-Fact

. The Pledgor hereby appoints the Secured Party the Pledgor's attorney-in-fact effective upon the occurrence of an Event of Default, with full authority in the place and stead of the Pledgor and in the name of the Pledgor or otherwise, from time to time in the Secured Party's discretion to take any action and to execute any instrument which the Secured Party may deem necessary or advisable to accomplish the purposes of this Pledge Agreement, including, without limitation, to receive, indorse and collect all instruments made payable to Pledgor representing any dividend or other distribution in respect of the Pledged Collateral or any part thereof.

5. The Secured Party's Duties; Reasonable Care

. The powers conferred on the Secured Party hereunder are solely to protect its interest in the Pledged Collateral and shall not impose any duty on it to exercise any such powers. Except for the safe custody of any Pledged Collateral in its possession and the accounting for monies actually received by it hereunder, the Secured Party shall have no duty as to any Pledged Collateral. The Secured Party shall be deemed to have exercised reasonable care in the custody and preservation of the Pledged Collateral in its possession if the Pledged Collateral is accorded treatment that is not materially less protective than that which the Secured Party accords its own property, it being expressly agreed that the Secured Party shall have no responsibility for (i) ascertaining or taking action with respect to calls, conversions, exchanges, maturities, tenders or other matters relative to any Pledged Collateral, whether or not the Secured Party has or is deemed to have knowledge of such matters, or (ii) taking any necessary steps to preserve rights against any parties with respect to any Pledged Collateral, but the Secured Party may do so at its option and all expenses incurred in connection therewith shall be payable by and for the sole account of Pledgor.

6. Defaults

. The occurrence of any one or more of the following events or conditions shall constitute an Event of Default under this Agreement:

a. Failure to Perform

. The Pledgor fails to make any principle or interest payment required pursuant to the Promissory Note or any other Loan Documents and fails to cure such default within the grace period provided in the applicable Loan Document.

b. Representations and Warranties

. The Pledgor makes or has made or furnishes or has furnished, any material written warranty, representation or statement to the Secured Party in connection with this Agreement or any of the other Loan Documents which is or was false or misleading when made or furnished.

c. Additional Liens; Attachment

. Any lien or encumbrance other than that created by this Pledge Agreement is placed on, or any levy is made on the Collateral, or any portion thereof; or the Collateral, or any portion thereof, is seized or attached pursuant to legal process, and such lien, encumbrance, levy, seizure, or attachment is not removed or released within sixty (60) days from the time such lien or encumbrance was placed thereon or such levy, seizure or attachment was effected.

d. Voluntary Bankruptcy

. The Pledgor commences or proposes to commence any bankruptcy, reorganization or insolvency proceeding, or other proceeding under any federal, state or other law for the relief of debtors;

e. Involuntary Bankruptcy

. The Pledgor fails to obtain dismissal, within ninety (90) days after commencement thereof, of any bankruptcy, insolvency, or reorganization proceeding or other proceeding for relief under any bankruptcy law, including, without limitation, the Federal Bankruptcy Code, or any law for the relief of debtors, instituted against the Pledgor by one or more third parties, fails to oppose actively such proceeding, or, in any such proceeding defaults or files an answer admitting the material allegations upon which the proceeding was based, or alleges its willingness to have an order for relief entered or its desire to seek liquidation, reorganization or adjustment of its debts; and

f. Receiver Appointed

. Any receiver, trustee or custodian is appointed by a court of competent jurisdiction to take possession of all or any substantial portion of the assets of Pledgor.

7. Remedies upon Default

. If any Event of Default shall have occurred:

- a. The Secured Party may exercise in respect of the Pledged Collateral, in addition to other rights and remedies provided for herein or otherwise available to it, all the rights and remedies of a secured party under applicable uniform commercial codes, and the Secured Party may also, without notice except as specified below, sell the Pledged Collateral or any part thereof in one or more parcels at public or private sale, at any exchange, broker's board or at any of the Secured Party's offices or elsewhere, for cash, on credit or for future delivery, and upon such other terms as the Secured Party may deem commercially reasonable. The Pledgor acknowledges and agrees that any such private sale may result in prices and other terms less favorable to the seller than if such sale were a public sale. The Pledgor agrees that, to the extent notice of sale shall be required by law, at least ten days' notice to the Pledgor of the time and place of any public sale or the time after which any private sale is to be made shall constitute reasonable notification. The Secured Party shall not be obligated to make any sale of Pledged Collateral regardless of notice of sale having been given. The Secured Party may adjourn any public or private sale from time to time by announcement at the time and place fixed therefor, and such sale may, without further notice, be made at the time and place to which it was so adjourned. The Secured Party shall be under no obligation to delay a sale of any of the shared of Pledged Stock for the period of time necessary to permit the issuing corporation of such securities to register such securities for public sale under the Securities Act of 1933, as from time to time amended (the "Securities Act"), or under applicable state securities laws, even if the issuing corporation would agree to do so.
- b. Any cash held by the Secured Party as Pledged Collateral and all cash proceeds received by the Secured Party in respect of any sale of, collection from, or other realization upon all or any part of the Pledged Collateral may, in the discretion of the Secured Party, be held by the Secured Party as collateral for, and/or then or at any time thereafter applied in whole or in part by the Secured Party for its benefit against, all or any part of the Obligations of the Pledgor pursuant to the Note or this Agreement. Any surplus of such cash or cash proceeds held by the Secured Party and remaining after payment in full of all the Obligations shall be paid over to the Pledgor or to whomsoever may be lawfully entitled to receive such surplus or as a court of competent jurisdiction may direct; provided, that in the event that all of the conditions to the termination of this Pledge Agreement pursuant to Section 13 shall not have been fulfilled, such balance shall be held and applied from time to time as provided in this subsection 11(b) until all such conditions shall have been fulfilled.

3. Remedies Cumulative

. Each right, power and remedy of the Secured Party provided in this Pledge Agreement or now or hereafter existing at law or in equity or by statute or otherwise shall be cumulative and concurrent and shall be in addition to every other right, power or remedy provided for in this Pledge Agreement or now or hereafter existing at law or in equity or by statute or otherwise. The exercise or partial exercise by the Secured Party of any one or more of such rights, powers or remedies shall not preclude the simultaneous or later exercise by the Secured Party of all such other rights, powers or remedies, and no failure or delay on the part of the Secured Party to exercise any such right, power or remedy shall operate as a waiver thereof.

4. Release; Termination

- a. So long as no Event of Default shall have occurred and the requirements of payment set forth in the Promissory Note are satisfied, the Pledgor may sell or dispose of any Pledged Collateral, if such sale or disposition is not prohibited by any terms or conditions of this Pledge Agreement, the Promissory Note or any other agreement related hereto. The Secured Party shall upon request of the Pledgor execute and deliver to the Pledgor a release or releases in form reasonably satisfactory to the Secured Party to release the lien of this Pledge Agreement with respect to such Pledged Collateral and assign, transfer and deliver such Pledged Collateral to the Pledgor. Such releases and assignments shall be without warranty by or recourse to the Secured Party, except as to the absence of any prior assignments by the Secured Party of its interest in the Pledged Collateral, and shall be at the expense of the Pledgor.
- b. This Pledge Agreement shall terminate upon full and complete payment in full of all Obligations under the Promissory Note, this Pledge Agreement or any other agreement related hereto. The Secured Party, at the time of such termination and at the expense of the Pledgor, will execute and deliver to the Pledgor a proper instrument or instruments acknowledging the termination of this Pledge Agreement, and will duly assign, transfer and deliver to the Pledgor such of the Pledged Collateral as has not yet theretofore been sold or otherwise applied or released pursuant to this Pledge Agreement, together with any moneys at the time held by the Secured Party hereunder. Such assignment and delivery shall be without warranty by or recourse to the Secured Party, except as to the absence of any prior assignments by the Secured Party of its interest in the Pledged Collateral.

3. Continuing Security Interest

. This Pledge Agreement shall create a continuing security interest in the Pledged Collateral and shall (i) remain in full force and effect until terminated pursuant to Section 13(b), (ii) be binding upon the Pledgor and its heirs, successors and assigns, and (iii) inure, together with the rights and remedies of the Secured Party hereunder, to the benefit of the Secured Party, its successors, transferees and assigns.

4. Waiver

. To the fullest extent he may lawfully so agree, the Pledgor agrees that it will not at any time insist upon, claim, plead, or take any benefit or advantage of any appraisal, valuation, stay, extension, moratorium, redemption or similar law now or hereafter in force in order to prevent, delay, or hinder the enforcement hereof or the absolute sale of any part of the Pledged Collateral; the Pledgor for itself and all who claim through him, so far as he or they now or hereafter lawfully may do so, hereby waive the benefit of all such laws, and all right to have the Pledged Collateral marshaled upon any foreclosure hereof, and agree that any court having jurisdiction to foreclose this Pledge Agreement may order the sale of the Pledged Collateral as an entirety.

5. Reinstatement

. This Pledge Agreement shall continue to be effective or be reinstated, as the case may be, if at any time any amount received by the Secured Party in respect of Pledgor's Obligations pursuant to the Promissory Note is rescinded or must otherwise be restored or returned by the Secured Party upon the insolvency, bankruptcy, dissolution, liquidation or reorganization of the Pledgor or upon the appointment of any intervenor or conservator of, or trustee or similar official for, the Pledgor or any substantial part of its assets, or otherwise, all as though such payments had not been made.

6. Severability

. The provisions of this Pledge Agreement are severable, and if any clause or provision shall be held invalid or unenforceable in whole or in part in any jurisdiction, then such invalidity or unenforceability shall affect only such clause or provision, or part thereof, in such jurisdiction and shall not in any manner affect such clause or provision in any other jurisdiction, or any other clause or provision of this Pledge Agreement in any jurisdiction.

7. Survival of Provisions

. All representations, warranties and covenants of the Pledgor contained herein shall survive the execution and delivery of this Pledge Agreement, and shall terminate only upon the full and final payment and performance by the Pledgor of its indebtedness and obligations secured hereby.

8. Counterparts

. This Pledge Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which shall together constitute one and the same agreement.

9. Governing Law

. This Pledge Agreement shall be construed in accordance with and all disputes hereunder shall be governed by the laws of the State of California, without regard to principles of conflicts of laws.

10. Amendments

. This Agreement may be amended, modified or supplemented only by a written instrument signed by the Pledgor and the Secured Party.

IN WITNESS WHEREOF, the parties hereto have caused this Pledge Agreement to be duly executed and delivered as of the date first above written.

Pledgor:

Paul Hastings

Secured Party:

AXYS PHARMACEUTICALS, INC.

By: _____

EXHIBIT A

(1) Options

to purchase 500,000 shares of the Company's common stock (the "Time Vesting Options") as described in Section 2.10 of that certain Employment Agreement dated as of _____, 2000 between the Company and Pledgor (the "Employment Agreement").

(2)

Options to purchase an additional 100,000 shares of the Company's common stock (the "Performance Vesting Options") as described in Section 2.10 of the Employment Agreement.

Exhibit B**PROMISSORY NOTE**

\$300,000 South San Francisco, California

January 2, 2000

For Value Received

, the undersigned hereby unconditionally, promises to pay to the order of **Axys Pharmaceuticals, Inc.**, a Delaware corporation (the "Company"), at the offices of the Company, 180 Kimball Way, South San Francisco, California, or at such other place as the holder hereof may designate in writing, in lawful money of the United States of America and in immediately available funds, the principal sum of Three Hundred Thousand Dollars (\$300,000) and interest accrued from the date hereof on the unpaid principal at the rate of 5.61% per annum, or the maximum rate permissible by law (which under the laws of the State of California shall be deemed to be the laws relating to permissible rates of interest on commercial loans), whichever is less, compounded annually, as follows:

Principal Repayment.

The outstanding principal amount hereunder shall be due and payable in full on January 2, 2004 and

Interest Payments.

Interest shall be compounded annually (calculated on the basis of a 365-day year for the actual number of days elapsed) and shall be payable in arrears on the Principal Repayment Date.

In addition, and notwithstanding the foregoing, provided that the undersigned continues to render services to the Company through each such date, the Company will forgive one thirty-sixth ($1/36^{\text{th}}$) of the principal amount of the Note and any accrued interest thereon on the first day of each calendar month following the date hereof. In the event the undersigned ceases providing services to the Company, whether as an employee, consultant, or member of the Company's Board of Directors, for any reason or no reason, the principal and all accrued interest due under this Note shall become due and payable in full no later than thirty (30) days after the date of such final cessation of service (but in no event later than the Principal Repayment Date); provided, however, that in the event the undersigned is terminated without Cause or due to death or disability or that the undersigned terminates his employment for Good Reason, the Company will concurrently therewith forgive all remaining principal and interest due under the Note. Capitalized terms used herein without definition shall be defined to have the same meaning as such terms have in that certain Employment Agreement dated as of January 2, 2001 between the Company and the undersigned.

This Note may be prepaid at any time without penalty. All money paid toward the satisfaction of this Note shall be applied first to the payment of interest as required hereunder and then to the retirement of the principal.

The full amount of this Note is secured by a pledge of any shares of Common Stock of the Company that the undersigned may purchase from time to time through the exercise of Company stock options, and is subject to all of the terms and provisions of that form of Pledge Agreement between the undersigned and the Company, attached as Exhibit A.

The undersigned hereby represents and agrees that the amount due under this Note are not consumer debt, and are not incurred primarily for personal, family or household purposes, but are for business and commercial purposes only.

The undersigned hereby waives presentment, protest and notice of protest, demand for payment, notice of dishonor and all other notices or demands in connection with the delivery, acceptance, performance, default or endorsement of this Note.

The holder hereof shall be entitled to recover, and the undersigned agrees to pay when incurred all costs and expenses of collection of this Note, including without limitation, reasonable attorneys' fees.

This Note shall be governed by, and construed, enforced and interpreted in accordance with, the laws of the State of California, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

Signed _____

Paul Hastings
