UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

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

For the quarterly period ended March 31, 2000

or

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

Commission File Number: 0-21088

VICAL INCORPORATED

Delaware	93-0948554
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

9373 Towne Centre Dr., Suite 100, San Diego, California	92121
(Address of principal executive offices)	(Zip code)

(858) 646-1100

(Registrant's telephone number, including area code)

Not Applicable

(Former name, former address and former fiscal year, if changed since last report)

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 such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days -- Yes /X/ No / /

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at March 31, 2000
Common Stock, $.01 par value	19,822,238

VICAL INCORPORATED

FORM 10-Q

TABLE OF CONTENTS

<TABLE>
<CAPTION>

</TABLE>

* No information provided due to inapplicability of item.

PART I. FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS

VICAL INCORPORATED
BALANCE SHEETS

<TABLE>
<CAPTION>

	March 31, 2000	December 31, 1999
	(Unaudited)	
<S>	<C>	<C>
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 66,978,112	$ 11,149,587
Marketable securities - available-for-sale	86,523,560	26,525,181
Receivables and other	3,193,857	3,971,621
Total current assets	156,695,529	41,646,389
Investment, at cost	5,000,000	-
Property and Equipment:		
Equipment	5,726,659	5,948,458
Leasehold improvements	2,473,967	1,646,023
	8,200,626	7,594,481
Less--accumulated depreciation and amortization	(5,936,570)	(5,708,349)
	2,264,056	1,886,132
Patent costs, net of accumulated amortization	1,429,208	1,380,245
Other assets	96,317	146,470
	$ 165,485,110	$ 45,059,236
LIABILITIES AND STOCKHOLDERS' EQUITY		
</TABLE>

Current Liabilities:		
Accounts payable and accrued expenses	$ 2,908,460	$ 3,839,642
Current portion of capital lease obligations	572,578	627,957
Current portion of notes payable	114,808	106,887
Current portion of deferred revenue	1,985,859	1,076,166
Total current liabilities	5,581,705	5,650,652
Long-Term Obligations:		
Long-term obligations under capital leases	672,694	739,885
Notes payable	688,844	-
Deferred revenue	3,818,182	-
Total long-term obligations	5,179,720	739,885
Stockholders' Equity:		
Preferred stock, $0.01 par value--5,000,000 shares authorized--none outstanding	-	-
Common stock, $0.01 par value--40,000,000 shares authorized--19,822,238 and 16,201,136 shares issued and outstanding at March 31, 2000 and December 31, 1999, respectively	198,222	162,011
Additional paid-in capital	202,315,409	83,292,870
Accumulated other comprehensive loss	(233,931)	(140,801)
Accumulated deficit	(47,556,015)	(44,645,381)
Total stockholders' equity	154,723,685	38,668,699
Total Liabilities and Stockholders' Equity	$ 165,485,110	$ 45,059,236

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VICAL INCORPORATED
STATEMENTS OF OPERATIONS
(UNAUDITED)

<TABLE>
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	Three months ended March 31,	
	2000	1999
<S>	<C>	<C>
Revenues:		
License/royalty revenue	$ 615,724	$ 2,665,335
Contract revenue	382,009	614,839
	997,733	3,280,174
Operating Expenses:		
Research and development	4,316,888	3,614,228
General and administrative	1,329,872	1,012,942
	5,646,760	4,627,170
Loss from operations	(4,649,027)	(1,346,996)
Interest income	1,777,108	571,174
Interest expense	38,715	33,223
Net loss	$ (2,910,634)	$ (809,045)
Net loss per share (basic and diluted--Note 2)	$ (0.15)	$ (0.05)
Weighted average shares used in computing net loss per share (Note 2)	19,021,921	15,952,678

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VICAL INCORPORATED
STATEMENTS OF CASH FLOWS
(UNAUDITED)

<TABLE>

<CAPTION>

	Three months ended March 31,	
	2000	1999
<S>	<C>	<C>
OPERATING ACTIVITIES:		
Net loss	$ (2,910,634)	$ (809,045)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	258,892	242,647
Change in operating assets and liabilities:		
Receivables and other	777,764	(931,624)
Accounts payable and accrued expenses	(931,182)	(419,589)
Deferred revenue	(272,125)	933,333
Net cash used in operating activities	(3,077,285)	(984,278)
INVESTING ACTIVITIES:		
Marketable securities	(60,091,508)	(7,252,863)
Capital expenditures	(577,776)	(117,385)
Deposits and other	50,154	19,418
Patent expenditures	(72,016)	(78,750)
Net cash used in investment activities	(60,691,146)	(7,429,580)
FINANCING ACTIVITIES:		
Issuance of common stock, net	119,058,750	4,840,982
Proceeds from notes payable	803,239	-
Payments on notes payable	(106,474)	(53,443)
Principal payments under capital lease obligations	(158,559)	(124,485)
Net cash provided from financing activities	119,596,956	4,663,054
Net increase (decrease) in cash and cash equivalents	55,828,525	(3,750,804)
Cash and cash equivalents at beginning of period	11,149,587	13,567,817
Cash and cash equivalents at end of period	$ 66,978,112	$ 9,817,013
Supplemental Disclosure of Non-Cash Investing and Financing Activities: Investment in preferred stock of Vascular Genetics Inc. in exchange for grant of license	$ 5,000,000	$ -
Equipment acquired under capital leases	$ 35,988	$ 32,417

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VICAL INCORPORATED

NOTES TO FINANCIAL STATEMENTS

March 31, 2000
(unaudited)

1. ORGANIZATION AND BASIS OF PRESENTATION

ORGANIZATION

Vical was incorporated in April 1987 and has devoted substantially all of its resources since that time to its research and development programs. We are currently focusing our resources on the development of our naked DNA and related technologies.

BASIS OF PRESENTATION

The information contained herein has been prepared in accordance with instructions for Form 10-Q. The information at March 31, 2000, and for the three-month periods ended March 31, 2000 and 1999, is unaudited. In the opinion of management, the information reflects all adjustments necessary to present fairly the financial position and results of operations for the interim periods.

All such adjustments are of a normal recurring nature. Interim results are not necessarily indicative of results for a full year. The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. For a presentation including all disclosures required by generally accepted accounting principles, these financial statements should be read in conjunction with the audited financial statements for the year ended December 31, 1999, included in the Vical Incorporated Form 10-K filed with the Securities and Exchange Commission.

2. NET LOSS PER SHARE

Net loss per share (basic and diluted) for the three-month periods ended March 31, 2000 and 1999, has been computed using the weighted average number of common shares outstanding during the respective periods. Diluted loss per share does not include any assumed exercise of stock options as the effect would be antidilutive.

3. COMPREHENSIVE INCOME (LOSS)

Accumulated other comprehensive loss represents unrealized loss on marketable securities. For the three-month periods ended March 31, 2000 and 1999, other comprehensive loss was $93,130 and $52,087, respectively, and total comprehensive loss was $3,003,764 and $861,132, respectively.

4. PUBLIC STOCK OFFERING

In January 2000, Vical completed the sale of 3,450,000 shares of common stock in a public offering which raised net proceeds of approximately $117.5 million.

5. LICENSE AGREEMENTS WITH HUMAN GENOME SCIENCES, INC. AND VASCULAR GENETICS INC.

On February 24, 2000, Vical and Human Genome Sciences, Inc. (HGS) signed a reciprocal royalty-bearing license. Under the agreement, Vical has the option to exclusively license up to three genes from HGS for gene-based product development. HGS has the option to license Vical's naked DNA gene delivery technology for use in up to three gene-based products. In addition, Vical granted an exclusive, royalty-bearing license to Vascular Genetics, Inc. (VGI), a company in which HGS is a major shareholder, for naked DNA delivery of a gene with potential use for revascularization. In exchange, Vical received shares of Preferred Stock Series B of Vascular Genetics, Inc. This investment was recorded at estimated

fair value of $5.0 million on the date of investment and is reflected as Investment, at cost, in the accompanying balance sheet. The investment is being accounted for on the cost method. Vical also recorded a liability for deferred revenue of $5.0 million. This deferred revenue is being recognized ratably each month through September 30, 2004.

6. COMMITMENTS

Vical will expand its leased space by approximately 5,100 square feet in one facility effective June 1, 2000. Total monthly rental on all facilities, including common area maintenance costs, is expected to be approximately $125,000 effective June 1, 2000. This lease amendment will increase our minimum lease commitments by approximately $938,000 through the end of the lease in November 2004.

At March 31, 2000, we had borrowed $803,000 under the $1.0 million line of credit with a bank to finance certain leasehold improvements.

7. RECENT ACCOUNTING PRONOUNCEMENTS

In December 1999, the SEC issued Staff Accounting Bulletin No. 101 - -"Revenue Recognition" (SAB 101). SAB 101 reflects the SEC's views on revenue recognition. Historically Vical has recognized revenue from initial technology option and license fees in the period in which the agreement was signed if there were no significant performance obligations remaining. Revenue from milestone payments is recognized as revenue when the milestones are achieved. SAB 101 would require that when there has not been the culmination of the earnings process, revenue from technology option and license fees and milestone payments be deferred and recognized over the period of the technology option or license agreement. There is a lack of guidance about applying SAB 101 in the Life Sciences Industry, including what constitutes the culmination of the earnings process where there are up-front, milestone and royalty payments. Further, there is significant uncertainty about the life over which to recognize this revenue, particularly where

royalties continue to be payable until the last related patent expires. Companies which have not adhered to the guidance in SAB 101 will be required to reflect a cumulative effect adjustment of a change in accounting principle in their financial statements for the second fiscal quarter of the fiscal year beginning after December 15, 1999. Due to the uncertainties noted above, we have not completed our evaluation of the impact of SAB 101 on our financial statements, however, the potential impact is expected to be material to the financial statements.

FORWARD-LOOKING STATEMENTS

The statements incorporated by reference or contained in this report discuss our future expectations, contain projections of our results of operations or financial condition, and include other "forward-looking" information within the meaning of Section 27A of the Securities Act of 1933, as amended. Our actual results may differ materially from those expressed in forward-looking statements made or incorporated by reference in this report. Forward-looking statements that express our beliefs, plans, objectives, assumptions or future events or performance may involve estimates, assumptions, risks and uncertainties. Therefore, our actual results and performance may differ materially from those expressed in the forward-looking statements. Forward-looking statements often, although not always, include words or phrases such as the following:

- "will likely result,"
- "are expected to,"
- "will continue,"
- "is anticipated,"
- "estimate,"
- "intends,"
- "plans,"
- "projection," and
- "outlook."

You should not unduly rely on forward-looking statements contained or incorporated by reference in this report. Actual results or outcomes may differ materially from those predicted in our forward-looking statements due to the risks and uncertainties inherent in our business, including risks and uncertainties in:

- clinical trial results,
- obtaining and maintaining regulatory approval,
- market acceptance of and continuing demand for our products,
- the attainment of patent protection for any of these products,
- the impact of competitive products, pricing and reimbursement policies,
- our ability to obtain additional financing to support our operations,
- the continuation of our corporate collaborations, and
- changing market conditions and other risks detailed below.

You should read and interpret any forward-looking statements together with the following documents:

- our Annual Report on Form 10-K,
- the risk factors contained in this report under the caption "Risk Factors," and
- our other filings with the Securities and Exchange Commission.

Any forward-looking statement speaks only as of the date on which that statement is made. We will not update any forward-looking statement to reflect events or circumstances that occur after the date on which such statement is made.

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

OVERVIEW

We were incorporated in April 1987 and have devoted substantially all of our resources since that time to our research and development programs. To date, we have not received revenues from the sale of products. We expect to incur substantial operating losses for at least the next few years, due primarily to the expansion of our research and development programs and the cost of preclinical studies and clinical trials. Losses may fluctuate from quarter to quarter as a result of differences in the timing of expenses incurred and the revenues received from collaborative agreements. Such fluctuations may be significant. As of March 31, 2000, our accumulated deficit was approximately $47.6 million.

We develop biopharmaceutical products based on our patented naked DNA gene transfer technologies for the prevention and treatment of life-threatening diseases. We currently focus our development on innovative cancer therapies to induce an immune response against cancer cells without causing serious side effects. We have retained all rights to our internally developed cancer product candidates.

We enter into collaborations with major pharmaceutical companies to leverage our technologies primarily for non-cancer applications such as vaccines for infectious diseases and optimized delivery of therapeutic proteins. We have established relationships through the license of our technology with a growing number of corporate partners and collaborators.

Vical has formulated ALLOVECTIN-7, a complex containing the gene encoding a particular human histocompatibility antigen, HLA-B7, and a lipid material to facilitate gene uptake. After direct injection of ALLOVECTIN-7 into a tumor, we believe that the HLA-B7 gene will cause the tumor cells to produce the HLA-B7 antigen. This gene expression may then trigger a potent cellular immune response against the tumor cells. The treatment may also trigger an immune response against additional tumor cells, both locally and systemically, by exposing other features of the tumor cells to the immune system. ALLOVECTIN-7, is in Phase III and Phase II registration trials for patients with advanced metastatic malignant melanoma, an aggressive form of skin cancer, and in Phase II clinical testing for patients with cancer of the head and neck.

Vical is developing its second gene-based product candidate, LEUVECTIN, also intended for direct injection into tumor lesions of cancer patients. LEUVECTIN contains a gene that encodes the potent immunostimulator IL-2 and a lipid material to facilitate gene uptake. We expect that LEUVECTIN, when injected into tumors, will cause the malignant cells to produce and secrete IL-2 in the vicinity of the tumor, stimulating the patient's immune system to attack and destroy tumor cells. Because LEUVECTIN is designed to deliver IL-2 only at the site of tumor lesions, we believe that it may provide efficacy similar to systemic IL-2 therapy with fewer side effects. LEUVECTIN is in Phase II clinical trials for patients with advanced metastatic kidney cancer and for high-risk patients with locally confined prostate cancer.

VAXID, a cancer vaccine intended to prevent recurrence of low-grade, non-Hodgkin's B-cell lymphoma, is in a Phase I/II clinical trial in a collaboration with Stanford University Medical Center. We are supporting clinical testing of a cancer vaccine for the treatment of advanced metastatic melanoma in a collaboration with the National Cancer Institute, NCI.

We are developing our cancer product candidates internally, while developing vaccine product candidates for infectious diseases primarily in collaboration with corporate partners Merck and Aventis Pasteur. We have a license agreement allowing Centocor to use our naked DNA technology to develop and market gene-based vaccines for the potential treatment of types of cancer. We have an agreement with Boston Scientific for the use of our technology in catheter-based intravascular gene delivery. We have an agreement with Aventis Pharma to use our gene delivery technology to deliver neurological proteins for neurodegenerative diseases. We have agreements with Pfizer for use of our technology for DNA-based delivery of therapeutic proteins in animal health applications and with Merial for use of our technology for DNA vaccines in animal infectious disease targets.

In February 2000, Vical and Human Genome Sciences, Inc. (HGS) signed a reciprocal royalty-bearing license. Under the agreement, Vical has the option to exclusively license up to three genes from HGS for gene-based product development. HGS has the option to license Vical's patented naked DNA gene delivery technology for use in up to three gene-based products. In addition, we granted an exclusive, royalty-bearing license to Vascular Genetics Inc. (VGI), a company in which HGS is a major shareholder, for naked DNA delivery of Vascular Endothelial Growth Factor-2, a protein with potential use for revascularization.

On April 13, 2000, the Company announced that Alain B. Schreiber,

President and CEO, and member of the Board of Directors, would be leaving the Company at the end of June. The Board of Directors has commenced a search for a replacement. During the transition, R. Gordon Douglas, M.D., Chairman of the Board of Vical, is assuming a more active role in managing the strategic direction of the Company. Deirdre Y. Gillespie, M.D., formerly Executive Vice President and Chief Business Officer, was elected Chief Operating Officer and assumed additional operating responsibilities.

In May 2000, an independent Drug Safety Review Board recommended that current Phase II and Phase III registration trials targeting metastatic melanoma should progress as planned, based on a review of safety and preliminary efficacy data collected to date.

We have licensed our naked DNA vaccination technology to Merck for a total of seven preventive vaccine targets:

- hepatitis B virus, HBV,

- hepatitis C virus, HCV,

- human immunodeficiency virus, HIV,

- human papilloma virus, HPV,

- herpes simplex virus, HSV,

- influenza virus, and

- tuberculosis, TB.

In addition, Merck also has a license covering three therapeutic vaccine targets, HBV, HIV and HPV.

Merck initiated a clinical trial in December 1999 with a vaccine using Vical's patented naked DNA technology to protect against infection by human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome.

We also have a license and option agreement with Aventis Pasteur for a total of six preventive vaccine targets:

- cytomegalovirus, CMV,

- HELICOBACTER PYLORI,

- Lyme disease,

- malaria,

- respiratory syncytial virus, RSV, and

- varicella zoster virus, VZV.

Vical is collaborating with Aventis Pasteur and the U.S. Naval Medical Research Center (NMRC) to develop a DNA vaccine against malaria. Results from a Phase I clinical trial with approximately twenty volunteers indicated that subjects immunized with a potential malaria DNA vaccine developed dose-related killer T-cell immune responses. As a result of these data, further clinical development is planned.

Vical's product candidates or those of our collaborators may not prove to be safe and effective in clinical trials and no commercially successful products may ultimately be developed by Vical or our collaborators.

RESULTS OF OPERATIONS

Revenues of $998,000 were recorded for the quarter ended March 31, 2000. License revenue primarily represented recognition of deferred license fees of $366,000 from Merial and Vascular Genetics Inc., and royalty and other revenue of $250,000. Contract and grant revenue recognized was $382,000, and included revenues from a contract with the Office of Naval Research for the development work on a potential naked DNA vaccine to prevent malaria, revenue from grants with NIH, and revenue from Pfizer and other agreements. Through March 31, 2000, Vical had recognized revenue of $2,532,000 of the total contract amount of $2,813,000 with the Office of Naval Research.

Revenues of $3,280,000 were recognized for the quarter ended March 31, 1999. License revenue included $1.0 million of option fees and $1.2 million of equity premium pursuant to January 1999 agreements with Pfizer Inc. License revenue also included recognition of deferred license fees of $250,000 from Merial and royalty income of $215,000. In addition, for the quarter ended March

31, 1999, we recognized net contract revenue of $615,000, primarily from the contract with the Office of Naval Research.

Our total operating expenses for the quarter ended March 31, 2000, were $5,647,000 compared with $4,627,000 for the first quarter of 1999. Research and development expenses increased to $4,317,000 for the three months ended March 31, 2000, from $3,614,000 for the same period in 1999. The increase in research and development expenses for the three-month period was generally due to increased preclinical and clinical trial costs, and personnel-related costs.

General and administrative expenses increased to $1,330,000 for the three months ended March 31, 2000, from $1,013,000 for the same period in 1999. The increase primarily is attributable to increased personnel-related costs in support of the expanded research and development activities.

Interest income for the three-month periods ended March 31, 2000 and 1999, was $1,777,000 and $571,000, respectively. The increase is a result of higher investment balances due to the January 2000 completion of the sale of 3,450,000 shares of Vical common stock in a public offering which raised net proceeds of approximately $117.5 million.

The net loss was $0.15 per share for the three months ended March 31, 2000, compared with a net loss of $0.05 for the same period of 1999. We expect to incur losses throughout the remainder of 2000 and to report a net loss for the year ended December 31, 2000.

LIQUIDITY AND CAPITAL RESOURCES

Since its inception, Vical has financed its operations primarily through private placements of preferred and common stock, four public offerings of common stock and revenues from collaborative agreements. In January 2000, Vical completed the sale of 3,450,000 shares of common stock in a public offering which raised net proceeds of approximately $117.5 million. The net proceeds were invested in marketable securities and cash equivalents during the quarter. As of March 31, 2000, we had working capital of approximately $151.1 million compared with $36.0 million at December 31, 1999. Cash and marketable securities totaled approximately $153.5 million at March 31, 2000, compared with $37.7 million at December 31, 1999. We have an unsecured line of credit agreement with a bank to provide financing for leasehold improvements. Under the terms of the agreement, we may borrow up to $1,000,000 through May 1, 2000. At March 31, 2000, $803,000 of borrowings were outstanding under this agreement.

We expect to incur substantial additional research and development expenses and general and administrative expenses, including continued increases in personnel costs, costs related to preclinical testing and clinical trials, outside services and facilities. Our future capital requirements will depend on many factors, including continued scientific progress in our research and development programs, the scope and results of preclinical testing and clinical trials, the time and costs involved in obtaining regulatory approvals, the costs involved in filing, prosecuting and enforcing patent claims, competing technological and market developments, the cost of manufacturing scale-up, and commercialization activities and arrangements. We intend to seek additional funding through research and development relationships with suitable potential corporate collaborators. We may also seek additional funding through public or private financings. We cannot assure that additional financing will be available on favorable terms or at all.

If additional funding is not available, Vical anticipates that its available cash and existing sources of funding will be adequate to satisfy its operating needs through at least 2002.

RECENT ACCOUNTING PRONOUNCEMENTS

In December 1999, the SEC issued Staff Accounting Bulletin No. 101 - "Revenue Recognition" (SAB 101). SAB 101 reflects the SEC's views on revenue recognition. Historically Vical has recognized revenue from initial technology option and license fees in the period in which the agreement was signed if there were no significant performance obligations remaining. Revenue from milestone payments is recognized as revenue when the milestones are achieved. SAB 101 would require that when there has not been the culmination of the earnings process, revenue from technology option and license fees and milestone payments be deferred and recognized over the period of the technology option or license agreement. There is a lack of guidance about applying SAB 101 in the Life Sciences Industry, including what constitutes the culmination of the earnings process where there are up-front, milestone and royalty payments. Further, there is significant uncertainty about the life over which to recognize this revenue, particularly where royalties continue to be payable until the last related patent expires. Companies which have not adhered to the guidance in SAB 101 will be required to reflect a cumulative effect adjustment of a change in accounting principle in their financial statements for the second fiscal quarter of the fiscal year beginning after December 15, 1999. Due to the uncertainties noted above, we have not completed our evaluation of the impact of SAB 101 on

our financial statements, however, the potential impact is expected to be material to the financial statements.

YEAR 2000 ISSUES

Through March 31, 2000, we have not experienced any immediate adverse impacts related to the Year 2000, including the impacts of the Year 2000 being a leap year. However, there may be adverse events which have occurred but which are not yet apparent to us, our strategic partners and our suppliers. We will continue to monitor our Year 2000 compliance and that of our collaborators and suppliers. Our costs for Year 2000 compliance have been immaterial. We do not believe that Year 2000 issues will have a material impact on our business, financial condition or results of operations.

RISK FACTORS

You should carefully consider the risks described below, together with all of the other information included in this report, before deciding whether to invest in our common stock. If any of the following risks actually occurs, our business, financial condition or results of operations could be harmed. In this case, the trading price of our common stock could decline, and you may lose all or part of your investment.

NONE OF OUR PRODUCTS HAVE BEEN APPROVED FOR SALE. IF WE DO NOT DEVELOP COMMERCIALLY SUCCESSFUL PRODUCTS, WE MAY BE FORCED TO CURTAIL OR CEASE OPERATIONS.

Very little data exists regarding the safety and efficacy of DNA therapeutics. All of our potential products are either in research or development. We must conduct a substantial amount of additional research and development before any U.S. or foreign regulatory authority will approve any of our products. Results of our research and development activities may indicate that our potential products are unsafe or ineffective. In this case, regulatory authorities will not approve them. Even if approved, our products may not be commercially successful. If we fail to develop and commercialize our products, we will not be successful.

WE HAVE A HISTORY OF NET LOSSES. WE EXPECT TO CONTINUE TO INCUR NET LOSSES AND WE MAY NOT ACHIEVE OR MAINTAIN PROFITABILITY.

We have not sold any products and do not expect to sell any products for the next few years. For the period from our inception to March 31, 2000, we have incurred cumulative net losses totaling approximately $47.6 million. Moreover, our negative cash flow and losses from operations will continue and increase for the foreseeable future. We may never generate sufficient product revenue to become profitable. We also expect to have quarter-to-quarter fluctuations in revenues, expenses and losses, some of which could be significant.

WE MAY NEED ADDITIONAL CAPITAL IN THE FUTURE. IF ADDITIONAL CAPITAL IS NOT AVAILABLE, WE MAY HAVE TO CURTAIL OR CEASE OPERATIONS.

We may need to raise more money to continue the research and development necessary to bring our products to market and to establish manufacturing and marketing capabilities. We may seek additional funds through public and private stock offerings, arrangements with corporate partners, borrowings under lease lines of credit or other sources. In the event that we need more money, but are unable to raise more money we may have to reduce our capital expenditures, scale back our development of new products, reduce our workforce and license to others products or technologies that we otherwise would seek to commercialize ourselves. The amount of money we may need will depend on many factors, including:

- the progress of our research and development programs,

- the scope and results of our preclinical studies and clinical trials,

- the time and costs involved in:

- obtaining necessary regulatory approvals,

- filing, prosecuting and enforcing patent claims,

- scaling up our manufacturing capabilities, and

- the commercial arrangements we may establish.

THE REGULATORY APPROVAL PROCESS IS EXPENSIVE, TIME CONSUMING AND UNCERTAIN WHICH MAY PREVENT US FROM OBTAINING REQUIRED APPROVALS FOR THE COMMERCIALIZATION OF OUR PRODUCTS.

Testing of the potential drugs we develop is regulated by numerous

governmental authorities in the United States and other countries. The regulations are evolving and uncertain. The regulatory process can take many years and require us to expend substantial resources. For example:

- the U.S. Food and Drug Administration, the FDA, has not established guidelines concerning the scope of clinical trials required for DNA therapeutics,

- the FDA has not indicated how many patients it will require to be enrolled in clinical trials to establish the safety and efficacy of DNA therapeutics, and

- current regulations are subject to substantial review by various governmental agencies.

Therefore, U.S. or foreign regulations could prevent or delay regulatory approval of our products or limit our ability to develop and commercialize our products. Delays could:

- impose costly procedures on our activities,

- diminish any competitive advantages that we attain, and

- negatively affect our ability to receive royalties.

We believe that the FDA and comparable foreign regulatory bodies will regulate separately each product containing a particular gene depending on its intended use. Presently, to commercialize any product we must sponsor and file a regulatory application for each proposed use. We then must conduct clinical studies to demonstrate the safety and efficacy of the product necessary to obtain FDA approval. The results obtained so far in our clinical trials may not be replicated in our on-going or future trials. This may prevent any of our potential products from receiving FDA approval.

We use recombinant DNA molecules in our product candidates, and therefore we also must comply with guidelines instituted by the National Institutes of Health, the NIH, and its Recombinant DNA Advisory Committee. The NIH could restrict or delay the development of our products.

ADVERSE EVENTS IN THE FIELD OF GENE THERAPY, OR WITH RESPECT TO OUR POTENTIAL PRODUCTS, MAY NEGATIVELY IMPACT REGULATORY APPROVAL OR PUBLIC PERCEPTION OF OUR PRODUCTS.

The recent death of a patient undergoing a viral-based gene therapy at the University of Pennsylvania in an investigator-sponsored trial has been widely publicized. This death and other adverse events in the field of gene therapy could result in greater governmental regulation of gene therapies, including our non-viral naked DNA technology, and potential regulatory delays relating to the testing or approval of our potential products. In addition, the field of gene therapy is under increased scrutiny, which may affect our product development efforts or clinical trials.

For example, one patient who had undergone treatment with ALLOVECTIN-7 for advanced metastatic melanoma died more than two months later of progressive disease and numerous other factors, after receiving multiple other cancer therapies. The death was originally reported as unrelated to the treatment. Following an autopsy, the death was reclassified as "probably related" to the treatment because the possibility could not be ruled out. We do not believe ALLOVECTIN-7 was a significant factor in the patient's death.

The commercial success of our potential products will depend in part on public acceptance of the use of gene therapies for the prevention or treatment of human diseases. Public attitudes may be influenced by claims that gene therapies are unsafe and our naked DNA therapeutics may not gain the acceptance of the public or the medical community. Negative public reaction to adverse events in our trials or gene therapy in general could result in greater government regulation and stricter labeling requirements of gene therapies, including our naked DNA therapeutics, and could cause a decrease in the demand for any products we may develop.

OUR PATENTS AND PROPRIETARY RIGHTS MAY NOT PROVIDE US WITH ANY BENEFIT AND THE PATENTS OF OTHERS MAY PREVENT US FROM COMMERCIALIZING OUR PRODUCTS.

Patents may not issue from any of our current applications. Moreover, if patents do issue, governmental authorities may not allow claims sufficient to protect our technology. Finally, others may challenge or seek to circumvent or invalidate patents that are issued to us or to licensors of our technology. In that event, the rights granted under patents may be inadequate to protect our proprietary technology or to provide any commercial advantage.

Our core DNA delivery technology is covered by a patent issued in

Europe which is being opposed by several companies under European patent procedures. If we are not successful in this opposition proceeding we may lose part or all of our proprietary protection on our potential products in Europe.

Others may have or may receive patents which contain claims applicable to our products. These patents may impede our ability to commercialize products.

THE LEGAL PROCEEDINGS TO OBTAIN PATENTS AND LITIGATION OF THIRD-PARTY CLAIMS OF INTELLECTUAL PROPERTY INFRINGEMENT COULD REQUIRE US TO SPEND MONEY AND COULD IMPAIR OUR OPERATIONS.

Our success will depend in part on our ability to obtain patent protection for our products and processes both in the United States and in other countries. The patent positions of biotechnology and pharmaceutical companies, however, can be highly uncertain and involve complex legal and factual questions. Therefore, it is difficult to predict the breadth of claims allowed in the biotechnology and pharmaceutical fields.

We also rely on protecting our proprietary technology in part through confidentiality agreements with our corporate collaborators, employees, consultants and certain contractors. These agreements may be breached and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or independently discovered by our competitors.

Protecting intellectual property rights can be very expensive. Litigation may be necessary to enforce a patent issued to us or to determine the scope and validity of third-party proprietary rights. Moreover, if a competitor were to file a patent application claiming technology also invented by us, we

would have to participate in an interference proceeding before the U.S. Patent and Trademark Office or in a foreign counterpart to determine the priority of the invention. We may be drawn into interferences with third parties or may have to provoke interferences ourselves to unblock third party patent rights so as to allow us or our licensees to commercialize products based on our technology. Litigation could result in substantial costs and the diversion of management's efforts regardless of the results of the litigation. An unfavorable result in litigation could subject us to significant liabilities to third parties, require disputed rights to be licensed or require us to cease using some technology.

Our products and processes may infringe, or be found to infringe on, patents not owned or controlled by us. We do not know whether any patents held by others will require us to alter our products or processes, obtain licenses, or stop activities. If relevant claims of third-party patents are upheld as valid and enforceable, we could be prevented from practicing the subject matter claimed in the patents, or may be required to obtain licenses or redesign our products or processes to avoid infringement. A number of genetic sequences or proteins encoded by genetic sequences that we are investigating are, or may become, patented by others. As a result, we may have to obtain licenses to test, use or market these products. Our business will suffer if we are not able to obtain licenses at all or on terms commercially reasonable to us and we may not be able to redesign our products or processes to avoid infringement.

COMPETITION AND TECHNOLOGICAL CHANGE MAY MAKE OUR POTENTIAL PRODUCTS AND TECHNOLOGIES LESS ATTRACTIVE OR OBSOLETE.

We compete with companies, including major pharmaceutical and biotechnology firms, that are pursuing other forms of treatment or prevention for the diseases we target. We also may experience competition from companies that have acquired or may acquire technology from universities and other research institutions. As these companies develop their technologies, they may develop proprietary positions which may prevent us from successfully commercializing products.

Some of our competitors are established companies with greater financial and other resources than we have. Other companies may succeed in developing products earlier than we do, obtaining FDA approval for products more rapidly than we do, or developing products that are more effective than those we propose to develop. While we will seek to expand our technological capabilities to remain competitive, research and development by others will seek to render our technology or products obsolete or noncompetitive or result in treatments or cures superior to any therapy developed by us. Additionally, consumers may not prefer therapies developed by us over existing or newly developed therapies.

THE METHOD OF ADMINISTRATION OF SOME OF OUR POTENTIAL PRODUCTS CAN CAUSE ADVERSE EVENTS IN PATIENTS, INCLUDING DEATH.

Some of our potential products are designed to be injected directly into malignant tumors. There are medical risks inherent in direct tumor injections. For example, in clinical trials of our potential products, attending physicians have punctured patients' lungs in less than one percent of procedures, requiring hospitalization. In addition, a physician administering our product in an investigator-sponsored clinical trial inadvertently damaged

tissue near the heart of a patient which may have precipitated the patient's death. These events are reported as adverse events in our clinical trials and illustrate the medical risks related to direct injection of tumors. These risks may adversely impact market acceptance of some of our products.

COMMERCIALIZATION OF SOME OF OUR POTENTIAL PRODUCTS DEPENDS ON COLLABORATIONS WITH OTHERS. IF OUR COLLABORATORS ARE NOT SUCCESSFUL OR IF WE ARE UNABLE TO FIND COLLABORATORS IN THE FUTURE, WE MAY NOT BE ABLE TO DEVELOP THESE PRODUCTS.

Our strategy for the research, development and commercialization of some of our product candidates requires us to enter into contractual arrangements with corporate collaborators, licensors, licensees and others. Our success depends upon the performance by these collaborators of their responsibilities under these arrangements. Some collaborators may not perform their obligations as we expect or we may not derive any revenue from these arrangements.

We have collaborative agreements with several pharmaceutical companies. We do not know whether these companies will successfully develop and market any products under their respective agreements. Moreover, some of our collaborators are also researching competing technologies to treat

the diseases targeted by our collaborative programs. We may be unsuccessful in entering into other collaborative arrangements to develop and commercialize our products.

IF WE LOSE OUR KEY PERSONNEL OR ARE UNABLE TO ATTRACT AND RETAIN ADDITIONAL PERSONNEL, WE MAY NOT BE ABLE TO PURSUE COLLABORATIONS OR DEVELOP OUR OWN PRODUCTS.

We are highly dependent on the principal members of our scientific, manufacturing, marketing and management personnel, the loss of whose services might significantly delay or prevent the achievement of our objectives. We face competition from other companies, academic institutions, government entities and other organizations in attracting and retaining personnel.

WE MAY NOT BE ABLE TO MANUFACTURE PRODUCTS ON A COMMERCIAL SCALE.

We have limited experience in manufacturing our product candidates in commercial quantities. We may be dependent initially on corporate partners, licensees or others to manufacture our products commercially. We also will be required to comply with extensive regulations applicable to manufacturing facilities. We may be unable to enter into any arrangement for the manufacture of our products.

WE HAVE NO MARKETING OR SALES EXPERIENCE, AND IF WE ARE UNABLE TO DEVELOP OUR OWN SALES AND MARKETING CAPABILITY, WE MAY NOT BE SUCCESSFUL IN COMMERCIALIZING OUR PRODUCTS.

Our current strategy is to market our proprietary cancer products directly in the United States, but we currently do not possess pharmaceutical marketing or sales capabilities. In order to market and sell our proprietary cancer products, we will need to develop a sales force and a marketing group with relevant pharmaceutical experience, or make appropriate arrangements with strategic partners to market and sell these products. Developing a marketing and sales force is expensive and time consuming and could delay any product launch. Our inability to successfully employ qualified marketing and sales personnel and develop our sales and marketing capabilities will harm our business.

HEALTH CARE REFORM AND RESTRICTIONS ON REIMBURSEMENT MAY LIMIT OUR RETURNS ON POTENTIAL PRODUCTS.

Our ability to earn sufficient returns on our products will depend in part on the extent to which reimbursement for our products and related treatments will be available from:

- government health administration authorities,

- private health coverage insurers,

- managed care organizations, and

- other organizations.

If we fail to obtain appropriate reimbursement, it could prevent us from successfully commercializing our potential products.

There are efforts by governmental and third party payors to contain or reduce the costs of health care through various means. We expect that there will continue to be a number of legislative proposals to implement government controls. The announcement of proposals or reforms could impair our ability to

raise capital. The adoption of proposals or reforms could impair our business.

Additionally third party payors are increasingly challenging the price of medical products and services. If purchasers or users of our products are not able to obtain adequate reimbursement for the cost of using our products, they may forego or reduce their use. Significant uncertainty exists as to the reimbursement status of newly approved health care products, and whether adequate third party coverage will be available.

WE USE HAZARDOUS MATERIALS IN OUR BUSINESS. ANY CLAIMS RELATING TO IMPROPER HANDLING, STORAGE OR DISPOSAL OF THESE MATERIALS COULD BE TIME CONSUMING AND COSTLY.

Our research and development processes involve the controlled storage, use and disposal of hazardous materials, biological hazardous materials and radioactive compounds. We are subject to

federal, state and local regulations governing the use, manufacture, storage, handling and disposal of materials and waste products. Although we believe that our safety procedures for handling and disposing of these hazardous materials comply with the standards prescribed by law and regulation, the risk of accidental contamination or injury from hazardous materials cannot be completely eliminated. In the event of an accident, we could be held liable for any damages that result, and any liability could exceed the limits or fall outside the coverage of our insurance. We may not be able to maintain insurance on acceptable terms, or at all. We could be required to incur significant costs to comply with current or future environmental laws and regulations.

WE MAY HAVE SIGNIFICANT PRODUCT LIABILITY EXPOSURE.

We face an inherent business risk of exposure to product liability and other claims in the event that our technologies or products are alleged to have caused harm. These risks are inherent in the development of chemical and pharmaceutical products. Although we currently maintain product liability insurance, we may not have sufficient insurance coverage and we may not be able to obtain sufficient coverage at a reasonable cost. Our inability to obtain product liability insurance at an acceptable cost or to otherwise protect against potential product liability claims could prevent or inhibit the commercialization of any products developed by us or our collaborators. We also have liability for products manufactured by us on a contract basis for third parties. If we are sued for any injury caused by our technology or products, our liability could exceed our total assets.

OUR STOCK PRICE COULD CONTINUE TO BE HIGHLY VOLATILE AND YOU MAY NOT BE ABLE TO RESELL YOUR SHARES AT OR ABOVE THE PRICE YOU PAID FOR THEM.

The market price of our common stock, like that of many other life sciences companies, has been highly volatile and is likely to continue to be highly volatile. The following factors, among others, could have a significant impact on the market price of our common stock:

- the results of our preclinical studies and clinical trials or those of our collaborators or competitors or for DNA therapeutics in general,
- evidence of the safety or efficacy of our potential products or the products of our competitors,
- the announcement by us or our competitors of technological innovations or new products,
- governmental regulatory actions,
- changes or announcements in reimbursement policies,
- developments with our collaborators,
- developments concerning our patent or other proprietary rights or those of our competitors, including litigation,
- concern as to the safety of our potential products,
- period-to-period fluctuations in our operating results,
- market conditions for life science stocks in general, and
- changes in estimates of our performance by securities analysts.

IF WE, OUR STRATEGIC PARTNERS OR OUR SUPPLIERS FAIL TO REMEDY YEAR 2000 ISSUES, OUR PRODUCT DEVELOPMENT PROGRAMS COULD BE INTERRUPTED AND OUR BUSINESS AND OPERATING RESULTS COULD BE HARMED.

If we, our strategic partners, or our suppliers of goods and services fail to remedy any Year 2000 issues, our business operations and development programs could be interrupted. Through March 1, 2000, we have not experienced any immediate adverse impacts related to the Year 2000, including the impacts of the Year 2000 being a leap year. However, there may be adverse events which have occurred but which are not yet apparent to us, our strategic partners and our suppliers. We will continue to monitor our Year 2000 compliance and that of our strategic partners and suppliers. Our costs for Year 2000 compliance have been immaterial. We do not believe that Year 2000 issues will have a material impact on our business, financial condition or results of operations.

OUR ANTI-TAKEOVER PROVISIONS COULD DISCOURAGE POTENTIAL TAKEOVER ATTEMPTS AND MAKE ATTEMPTS BY STOCKHOLDERS TO CHANGE MANAGEMENT MORE DIFFICULT.

The approval of two-thirds of our voting stock is required to approve some transactions and to take some stockholder actions, including the calling of a special meeting of stockholders and the amendment of any of the anti-takeover provisions contained in our certificate of incorporation. Further, pursuant to the terms of our stockholder rights plan adopted in March 1995, we have distributed a dividend of one right for each outstanding share of common stock. These rights will cause substantial dilution to the ownership of a person or group that attempts to acquire us on terms not approved by our Board of Directors and may have the effect of deterring hostile takeover attempts.

PART II. OTHER INFORMATION

ITEM 6. EXHIBITS AND REPORTS ON FORM 8-K

1. Exhibits

EXHIBIT 10.21* License Agreement dated February 24, 2000 between Vical and Human Genome Sciences, Inc.

EXHIBIT 10.22* License Agreement dated February 24, 2000 between Vical and Vascular Genetics Inc.

* Vical has requested confidential treatment of certain portions of these agreements.

EXHIBIT 27 Financial Data Schedule

2. Reports on Form 8-K

None

VICAL INCORPORATED

SIGNATURES

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

Vical Incorporated

Date: May 12, 2000

By: /s/ MARTHA J. DEMSKI

Martha J. Demski
Vice President and Chief Financial Officer (on behalf of the registrant and as the registrant's Principal Financial and Accounting Officer)

<TABLE>
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	EXHIBIT NUMBER	DESCRIPTION OF DOCUMENT
<S>	<C>	<C>
1.	Exhibit 10.21*	License Agreement dated February 24, 2000 between Vical and Human Genome Sciences, Inc.
	Exhibit 10.22*	License Agreement dated February 24, 2000 between Vical and Vascular Genetics Inc.
		* Vical has requested confidential treatment of certain portions of these agreements.
2.	Exhibit 27	Financial Data Schedule

</TABLE>

EXHIBIT 10.21

[CONFIDENTIAL TREATMENT REQUESTED. CONFIDENTIAL PORTIONS OF THIS AGREEMENT HAVE BEEN REDACTED AND HAVE BEEN SEPARATELY FILED WITH THE COMMISSION.]

LICENSE AGREEMENT
BETWEEN
HUMAN GENOME SCIENCES, INC.
AND
VICAL INCORPORATED

FEBRUARY 24, 2000

TABLE OF CONTENTS

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</TABLE>

LICENSE AGREEMENT

THIS AGREEMENT ("Agreement"), dated as of the 24th of February 2000 (the "Effective Date"), is entered into by Human Genome Sciences, Inc. ("HGS"), a Delaware corporation, having a place of business at 9410 Key West Avenue, Rockville, Maryland 20850, and Vical Incorporated ("VICAL"), a Delaware corporation, having a place of business at 9373 Towne Center Drive, San Diego, California 92121.

1 BACKGROUND

1.1 HGS is in possession of certain human gene sequence information and has the ability and desire to develop and commercialize and to have developed and commercialized gene therapy products based on that sequence information.

1.2 VICAL is in possession of certain gene therapy delivery methods and has the ability and desire to develop and commercialize and to have developed and commercialized gene therapy products based on those delivery methods.

1.3 Vascular Genetics Inc. ("VGI") has an exclusive license from HGS for the use of the gene Vascular Endothelial Growth Factor-2 ("VEGF-2") in

the gene therapy treatment of vascular diseases. HGS holds a significant equity interest in VGI.

1.4 HGS, VICAL, and VGI have agreed in an Investment Agreement, dated February 24, 2000 (the "Investment Agreement") to undertake a series of transactions in which (1) VGI will receive a license from VICAL for the use of VICAL's gene therapy delivery methods in conjunction with VEGF-2; (2) HGS will receive a license from VICAL for the use of certain VICAL technology with respect to certain genes; (3) VICAL will receive a license from HGS for the use of certain genes as gene therapy products; (4) VICAL will receive an equity interest in VGI, which VGI will have certain rights to redeem; and (5) HGS will receive additional equity in VGI and will have returned to it by VGI rights to certain genes licensed to VGI by HGS.

1.5 To effect this series of transactions pursuant to the terms and conditions of the Investment Agreement, this Agreement is being simultaneously executed with (1) a license agreement between VICAL and VGI; (2) a second amendment to the license agreement between HGS and VGI; (3) certain other agreements, all as set forth in the Investment Agreement.

2 DEFINITIONS.

2.1 "AFFILIATE" shall mean any individual or entity directly or indirectly controlling, controlled by or under common control with, the specified individual or entity. For purposes of this Agreement, the direct or indirect ownership of fifty percent (50%) or more of the outstanding voting securities of an entity, or the right to receive fifty (50%) or more of the profits or earnings of an entity shall be deemed to constitute control. Such other relationship as in fact gives such individual or entity the power or ability to control the management, business and affairs of an entity shall also constitute control.

2.2 "CONFIDENTIAL INFORMATION" shall mean, with respect to a party, all information (and all tangible and intangible embodiments thereof), which is owned or controlled by such party, is disclosed by such party to the other party pursuant to this Agreement and (if disclosed in writing or other tangible medium) is marked or identified as confidential at the time of disclosure to the receiving party or (if otherwise disclosed) is identified as confidential at the time of disclosure to the receiving party and described as such in writing within thirty (30) days after such disclosure. Notwithstanding the foregoing, CONFIDENTIAL INFORMATION of a party shall not include information which, and only to the extent, the receiving party can establish by written documentation (a) has been publicly known prior to disclosure of such information by the disclosing party to the receiving party, (b) has become publicly known, without fault on the part of the receiving party, subsequent to disclosure of such information by the disclosing party to the receiving party, (c) has been received by the receiving party at any time from a source, other than the disclosing party, rightfully having possession of and the right to disclose such information free of confidentiality obligations, (d) has been otherwise known by the receiving party free of confidentiality obligations prior to disclosure of such information by the disclosing party to the receiving party, or (e) has been independently developed by

employees or others on behalf of the receiving party without access to or use of such information disclosed by the disclosing party to the receiving party.

2.3 "CYTOFECTIN DELIVERY TECHNOLOGY" shall mean all patentable or unpatentable inventions, discoveries, technology and information of any type whatsoever, including without limitation compositions, methods, processes, confidential information, technical information, knowledge, experience and know-how regarding the use of cytofectins (including cationic lipids) in the delivery of GENES into a patient for the treatment or prevention of one or more diseases or conditions; in each case which is owned by or licensed to VICAL on the Effective Date or during the term of this Agreement, all to the extent and only to the extent that VICAL now has or hereafter will have the right to grant licenses, immunities or other rights thereunder.

2.4 "DIRECT INJECTION TECHNOLOGY" shall mean all patentable or unpatentable inventions, discoveries, technology and information of any type whatsoever, including without limitation compositions, methods, processes, confidential information, technical information, knowledge, experience and know-how regarding the direct injection of GENES (including plasmid DNA-based delivery technology) into a patient to cause the IN VIVO expression of a desired protein, thereby effecting

delivery of such protein, to a patient for the treatment or prevention of one or more diseases or conditions; in each case which is owned by or licensed to VICAL on the Effective Date or during the term of this Agreement, all to the extent and only to the extent that VICAL now has or will have during the term of this Agreement the right to grant licenses, immunities or other rights thereunder.

2.5 "DNA PROCESS TECHNOLOGY" shall mean all patentable or unpatentable inventions, discoveries, technology and information of any type whatsoever, including without limitation compositions, methods, processes, confidential information, technical information, knowledge, experience and know-how regarding technologies related to the manufacture and processing of plasmid DNA for human use; in each case , which is owned by or licensed to VICAL on the Effective Date or during the term of this Agreement, all to the extent and only to the extent that VICAL now has or will have during the term of this Agreement the right to grant licenses, immunities or other rights

thereunder.

2.6 "EXCLUSIVE HGS PRODUCT" means any product or part thereof (a) the manufacture, use or sale of which is covered by an VICAL PATENT or is otherwise based on, uses or incorporates the VICAL TECHNOLOGY and (b) comprises an HGS RESEARCH GENE as to which HGS has exercised an option under Paragraph 3.2 and been granted a license under Paragraph 4.3.

2.7 "EXCLUSIVE VICAL PRODUCT" means any product or part thereof (a) the manufacture, use, or sale of which is covered by a HGS PATENT or is otherwise based on, uses or incorporates the HGS TECHNOLOGY, and (b) comprises a VICAL RESEARCH GENE as to which VICAL has exercised an option under Paragraph 3.6 and been granted a license under Paragraph 5.4.

2.8 "FIELD" shall mean the intervention, treatment and/or prevention of a disease or disorder in humans by GENE THERAPY.

2.9 "GENE" shall mean a human nucleotide sequence, including DNA, RNA and complementary and reverse complementary nucleotide sequences thereto, whether coding or non-coding and whether intact or a fragment.

2.10 "GENE THERAPY" shall mean the treatment or prevention of a disease, or remedying a gene deficiency of humans by genetic modification of somatic cells (IN VIVO or EX VIVO) with DNA whereby an active transcription process results in the expression of a protein or oligo(poly)nucleotide encoded by said DNA in a human.

2.11 "HGS DATABASES" shall mean all data and information which during the term of this Agreement is owned by HGS or to which HGS has the right to grant access, regarding (i) sequence data with respect to genetic material (and the corresponding clones) and expression products thereof, (ii) information on biological function of such genetic material and expression products, and (iii) clones, cell lines and vectors.

2.12 "HGS IMPROVEMENTS" shall mean all patentable or unpatentable inventions, discoveries, or other technology regarding VICAL RESEARCH GENES or the protein(s)

encoded thereby or the use of either of the foregoing, but expressly excluding a formulation or combination of a GENE and the delivery vehicle for such GENE, made or conceived by VICAL solely or jointly with others during the term of this Agreement.

2.13 "HGS PATENT(S)" shall mean (a) all patent applications filed in any country before or after the Effective Date; (b) all patents that have issued or in the future issue from any of the foregoing patent applications, including without limitation, utility and design patents and certificates of invention; and (c) all continuations, continuations-in-part, divisionals, additions, reissues, renewals, re-examinations or extensions, or SPCs to any such patents and patent applications; in each case which during the term of this Agreement are or become owned by HGS or to which HGS otherwise has, now or in the future, the right to grant licenses and which claim in whole or in part GENES, HGS TECHNOLOGY or the use thereof in the FIELD.

2.14 "HGS RESEARCH GENE" shall mean a GENE identified by HGS pursuant to Paragraph 7.3.

2.15 "HGS TECHNOLOGY" shall mean (a) sequence data with respect to human DNA

(and the corresponding clones) and expression products, (b) information on biological function of GENES, and (c) HGS clones, cell lines and vectors and all related information and data which during the term of this Agreement, are owned by HGS or to which HGS otherwise has the right to grant licenses, immunities or other rights thereunder.

2.16 "IND" shall mean an Investigational New Drug application filed with the Food and Drug Administration in the United States, or any similar filing with any foreign regulatory authority, to commence human clinical testing of a PRODUCT in any country.

2.17 "NET SALES" shall mean, with respect to a PRODUCT, the gross sales price invoiced by the seller (calculated on a PRODUCT by PRODUCT basis) to THIRD PARTIES that are not (sub)licensees (except as set forth below), less normal and customary deductions actually paid or accrued by the seller for (i) normal and customary trade, cash and quality credits, discounts, refunds or government rebates; (ii) credits for claims, allowances or returns; retroactive price reductions; chargebacks or the like; and (iii) sales taxes, duties and other government charges (including value added tax), but excluding what is

commonly known as income taxes. NET SALES shall not include sales among the seller, its (sub)licensees and their respective AFFILIATES for resale, provided that NET SALES shall include the amounts invoiced by the seller, its sublicensees and their respective AFFILIATES to THIRD PARTIES on the resale of such PRODUCT. Sales between or among a party, its (sub)licensees and their respective AFFILIATES shall be included within NET SALES only if such purchaser is an end-user of such PRODUCT.

2.18 "PRODUCT(S)" shall mean EXCLUSIVE VICAL PRODUCT(S) and EXCLUSIVE HGS PRODUCT(S).

2.19 "RESEARCH PLAN" shall mean a plan for research and development of a PRODUCT in the FIELD, which includes, at a minimum, scientific data, research and development efforts, and research and development milestones.

2.20 "RESEARCH TERM" shall mean the period beginning on the Effective Date and ending on September 30, 2004.

2.21 "SB" shall mean SmithKline Beecham Corporation and/or SmithKline Beecham p.l.c., as defined in the SB/HGS LICENSE AGREEMENT.

2.22 "SB/HGS LICENSE AGREEMENT" shall mean the SB/HGS License Agreement dated June 28, 1996 between SmithKline Beecham Corporation, SmithKline Beecham p.l.c. and Human Genome Sciences, Inc., as the same may be amended from time to time.

2.23 "SP" shall mean Schering Corporation and/or Schering Plough Ltd., as defined in the SP/HGS GENE THERAPY LICENSE AGREEMENT.

2.24 "SP/HGS GENE THERAPY LICENSE AGREEMENT" shall mean the Gene Therapy Collaboration and License Agreement between HGS and SP, dated June 28, 1996.

2.25 "SPC" shall mean a right based upon an underlying patent such as a Supplementary Protection Certificate.

2.26 "THIRD PARTY" shall mean any party other than HGS or VICAL or an AFFILIATE of

VICAL or HGS.

2.27 "VICAL IMPROVEMENTS" shall mean all patentable or unpatentable inventions, discoveries or other technology regarding VICAL TECHNOLOGY, but expressly excluding a formulation or combination of a GENE and the delivery vehicle for such GENE, made or conceived by HGS solely or jointly with others during the term of this Agreement, and which resulted from the use of VICAL TECHNOLOGY.

2.28 "VICAL PATENT(S)" shall mean (a) all patent applications filed in any country before or after the Effective Date; (b) all patents that have issued or in the future issue from any of the foregoing patent applications, including without limitation, utility and design patents and certificates of invention, further including but not limited to those patents listed in Appendix A; and (c) all continuations, continuations-in-part, divisional, additions, reissues, renewals, re-examinations or extensions, or SPCs to any such patents and patent applications; in each case which during the term of this Agreement are

or become owned by VICAL or to which VICAL otherwise has, now or in the future, the right to grant licenses and which claim in whole or in part VICAL TECHNOLOGY or the use thereof in the FIELD.

2.29 "VICAL RESEARCH GENE" shall mean a GENE identified by VICAL pursuant to Paragraph 7.2.

2.30 "VICAL TECHNOLOGY" shall mean (a) DIRECT INJECTION TECHNOLOGY, (b) CYTOFECTIN DELIVERY TECHNOLOGY, and (c) DNA PROCESS TECHNOLOGY.

3 GRANTS AND COVENANTS

HGS PRODUCTS

3.1 Subject to the terms and conditions of this Agreement, VICAL grants to HGS a non-exclusive, non-transferable, worldwide license (without the right to grant sublicenses) under VICAL TECHNOLOGY and VICAL PATENTS to perform research and preclinical development in the FIELD during the RESEARCH TERM using HGS RESEARCH GENES.

3.2 Subject to the terms and conditions of this Agreement, VICAL hereby grants to HGS non-exclusive, non-transferable options to obtain licenses under Paragraph 3.3 for up to three (3) HGS RESEARCH GENES exercisable during the RESEARCH TERM of this Agreement in accordance with the provisions of Article 4.

3.3 Subject to the terms and conditions of this Agreement, with respect to EXCLUSIVE HGS PRODUCTS directed to an HGS RESEARCH GENE for which HGS has exercised an option under Paragraph 3.2 and VICAL is obligated to grant a license pursuant to Paragraph 4.3, VICAL grants to HGS an exclusive worldwide license (with the right to grant sublicenses) under VICAL TECHNOLOGY and VICAL PATENTS to research, develop, make, have made, use, import, export, offer to sell and sell such EXCLUSIVE HGS PRODUCTS in the FIELD.

3.4 For any sublicense granted by HGS to an AFFILIATE or THIRD PARTY pursuant to the provisions of Paragraph 3.3, HGS shall provide VICAL with a copy of each sublicense granted hereunder promptly after executing the same; provided, however, that HGS shall have the right to redact any confidential terms from the copy provided to VICAL. Any such sublicense shall be subject and subordinate to the terms and conditions of this Agreement, and HGS shall remain responsible for all payments due to VICAL.

VICAL PRODUCTS

3.5 Subject to the terms and conditions of this Agreement, HGS grants to VICAL a non-exclusive, non-transferable, worldwide license (without the right to grant sublicenses), under HGS TECHNOLOGY and HGS PATENTS to perform research and preclinical development in the FIELD during the RESEARCH TERM using VICAL RESEARCH GENES.

3.6 Subject to the terms and conditions of this Agreement, HGS hereby grants to VICAL non-exclusive, non-transferable options to obtain licenses under Paragraph 3.7 for up to three (3) VICAL RESEARCH GENES exercisable during the RESEARCH TERM of this Agreement in accordance with the provisions of Article 5.

3.7 Subject to the terms and conditions of this Agreement, with respect to EXCLUSIVE

VICAL PRODUCTS directed to a VICAL RESEARCH GENE for which VICAL has exercised an option under Paragraph 3.6 and HGS is obligated to grant a license pursuant to Paragraph 5.3, HGS grants to VICAL an exclusive worldwide license (with the right to grant sublicenses) under HGS TECHNOLOGY and HGS PATENTS to research, develop, make, have made, use, import, export, offer to sell and sell such EXCLUSIVE VICAL PRODUCTS in the FIELD.

3.8 For any sublicense granted by VICAL to an AFFILIATE or THIRD PARTY pursuant to the provisions of Paragraph 3.7, VICAL shall provide HGS with a copy of each sublicense granted hereunder promptly after executing the same; provided, however, that VICAL shall have the right to redact any confidential terms from the copy provided to HGS. Any such sublicense shall be subject and subordinate to the terms and conditions of this Agreement, and VICAL shall remain responsible for all payments due to HGS.

MISCELLANEOUS

3.9 During and after the RESEARCH TERM, VICAL agrees to use HGS TECHNOLOGY and HGS PATENTS only as licensed and permitted hereunder. During and after the RESEARCH TERM, HGS agrees to use VICAL TECHNOLOGY and VICAL PATENTS only as licensed and permitted hereunder.

3.10 The rights and licenses granted to HGS by VICAL are sublicensable and/or transferable by HGS to a THIRD PARTY only with respect to a specific EXCLUSIVE HGS PRODUCT and only in accordance with the provisions of this Agreement. The rights and licenses granted to VICAL by HGS are licensable and/or transferable by VICAL to a THIRD PARTY only with respect to a specific EXCLUSIVE VICAL PRODUCT and only in accordance with the provisions of this Agreement.

3.11 Notwithstanding anything to the contrary in this Agreement, HGS shall not grant any rights or license to a THIRD PARTY with respect to an EXCLUSIVE HGS PRODUCT unless HGS has first demonstrated IN VIVO biological activity for the EXCLUSIVE HGS PRODUCT in a relevant animal model. VICAL shall not grant any rights or license to a THIRD PARTY with respect to an EXCLUSIVE VICAL PRODUCT unless VICAL has first demonstrated IN VIVO biological activity for the EXCLUSIVE VICAL PRODUCT in

a relevant animal model. Such evidence of IN VIVO biological activity must be statistically different ($p < 0.05$) from control for at least one data point.

3.12 Notwithstanding anything to the contrary herein, HGS shall own all right, title and interest in and to the HGS IMPROVEMENTS and all intellectual property rights therein and thereto. VICAL hereby irrevocably assigns, transfers and conveys to HGS all right, title and interest in and to the HGS IMPROVEMENTS and all intellectual property rights therein and thereto. VICAL shall take, and shall cause its AFFILIATES to take any and all actions and execute and deliver (or cause to be executed or delivered) any and all documents reasonably requested by HGS, at HGS' expense, in order to effect the foregoing assignment.

3.13 HGS hereby grants VICAL a non-exclusive, royalty-free, perpetual, worldwide, sublicensable license to HGS IMPROVEMENTS and the claims of any HGS PATENT covering such HGS IMPROVEMENTS but only to the extent that such claims cover HGS IMPROVEMENTS.

3.14 Notwithstanding anything to the contrary herein, VICAL shall own all right, title and interest in and to the VICAL IMPROVEMENTS and all intellectual property rights therein and thereto. HGS hereby irrevocably assigns, transfers and conveys to VICAL all right, title and interest in and to the VICAL IMPROVEMENTS and all intellectual property rights therein and thereto. HGS shall take, and shall cause its AFFILIATES to take any and all actions and execute and deliver (or cause to be executed or delivered) any and all documents reasonably requested by VICAL, at VICAL's expense, in order to effect the foregoing assignment.

3.15 VICAL hereby grants HGS a non-exclusive, royalty-free, perpetual, worldwide, sublicensable license to VICAL IMPROVEMENTS and the claims of any VICAL PATENT covering such VICAL IMPROVEMENTS, but only to the extent that such claims cover VICAL IMPROVEMENTS.

3.16 Notwithstanding anything to the contrary herein, during the period commencing upon the Effective Date and ending ***, HGS shall not request and VICAL shall not grant to HGS any license rights regarding GENES encoding ***.

3.17 No rights, other than those expressly set forth in this Agreement, are granted to HGS or VICAL hereunder, and no additional rights shall be granted to VICAL or HGS by implication, estoppel or otherwise.

4 HGS PRODUCTS

4.1 If HGS desires to exercise an option under Paragraph 3.2 for an HGS RESEARCH GENE, HGS shall do so by submitting to VICAL a written notice that describes the HGS RESEARCH GENE for which HGS seeks an exclusive license to use VICAL TECHNOLOGY and VICAL PATENTS. Such notice shall include the HGS Clone ID Number, the common name of such GENE, the amino acid sequence encoded by the GENE, and any other publicly known names of the GENE or the amino acid sequence.

4.2 VICAL shall grant an exclusive license pursuant to Paragraph 3.3 to the

HGS RESEARCH GENE identified in such notice provided that (1) VICAL has not previously granted a license to a THIRD PARTY with respect to the identified GENE or essentially the same GENE; or (2) VICAL has not previously begun an active gene therapy program on such GENE or essentially the same gene. For the purposes of this Agreement the term "essentially the same" shall mean that the sequence of nucleotides comprising the GENE is at least *** homologous to such GENE. In the event that VICAL indicates to HGS that VICAL has previously begun a program to research and/or develop a product in the FIELD which utilizes, comprises, or is based on such GENE or essentially the same GENE, within sixty (60) days thereafter HGS shall have the right to notify VICAL that HGS at its cost and expense will have an independent THIRD PARTY reasonably acceptable to VICAL inspect VICAL's records with respect thereto solely for the purpose of verifying that VICAL has previously begun such research and development. VICAL

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*** Confidential material redacted and separately filed with the Commission.

shall permit such independent THIRD PARTY to effect such inspection within a reasonable time after such notification provided that such THIRD PARTY signs an agreement of confidentiality acceptable to VICAL which includes a covenant that the only information which will be provided to HGS is whether or not VICAL has in fact begun such research and/or development.

4.3 Within thirty (30) days after receipt of a notice pursuant Paragraph 4.1, VICAL shall notify HGS in writing if VICAL does not have the right to grant HGS the license under Paragraph 3.3 for such GENE. Unless VICAL timely notifies HGS in writing that it does not have such a right, VICAL hereby grants to HGS the exclusive license under Paragraph 3.3 for EXCLUSIVE HGS PRODUCTS directed to such GENE.

4.4 Following a grant to HGS under Paragraph 4.3 above, HGS shall not exercise its option for its second or third GENE, as the case may be, until the earlier of (a) the date on which HGS has granted to VICAL the first or second, as the case may be, exclusive license pursuant to Paragraph 3.7 for a GENE; or (b) the date *** after the date on which VICAL has granted to HGS its immediately preceding exclusive license pursuant to Paragraph 3.3 (the "HGS Holding Period"); provided, however, if VICAL receives written notice pursuant to Paragraph 5.2 or 5.4 that a GENE requested by VICAL is not available, the HGS Holding Period shall continue until the later of (i) the expiration of the *** described in clause (b) above, and (ii) the earlier of (A) the date *** after the date on which VICAL receives the latest written notice from HGS pursuant to Paragraph 5.2 or 5.4, and (B) the date *** after the expiration of the *** described in clause (b) above.

4.5 Within thirty (30) days of the grant of each license under Paragraph 3.3, HGS shall provide VICAL with a RESEARCH PLAN for each HGS RESEARCH GENE for which license rights are granted.

4.6 HGS will have the sole responsibility for development and commercialization of EXCLUSIVE HGS PRODUCTS.

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4.7 VICAL agrees not to grant to any THIRD PARTY any rights or licenses in or to an EXCLUSIVE HGS PRODUCT or to the use of VICAL TECHNOLOGY or VICAL PATENTS with respect to essentially the same GENE which is encompassed by such EXCLUSIVE HGS PRODUCT.

4.8 HGS may not exercise an option to obtain an exclusive license under Paragraph 3.3 for EXCLUSIVE HGS PRODUCTS directed to more than three (3) GENES during the term of this Agreement.

4.9 During the term of this Agreement and for a period of two (2) years thereafter, HGS shall keep complete and accurate records of its research and development activities conducted under this Agreement regarding EXCLUSIVE HGS PRODUCTS and the results thereof. Within thirty (30) days after the end of each calendar year during the term of this Agreement, HGS shall prepare and provide VICAL with a reasonably detailed written report of such activities and results through such date.

5 VICAL PRODUCTS

5.1 If VICAL desires to exercise an option under Paragraph 3.6 for a VICAL RESEARCH GENE, VICAL may do so by submitting to HGS a written notice that describes the GENE for which VICAL seeks an exclusive license. Such notice shall include the HGS Clone ID Number, the common name of the GENE, the amino acid sequence encoded by the GENE, and any other publicly known names of the GENE or the amino acid sequence.

5.2 HGS shall grant an exclusive license pursuant to Paragraph 3.7 to the GENE identified in such notice provided that (1) HGS has not previously granted a license to a THIRD PARTY with respect to such GENE or essentially the same GENE; (2) the GENE is not directed to a therapeutic protein that HGS has obtained exclusive rights to pursuant to the SB/HGS LICENSE AGREEMENT and similar collaboration agreements; (3) HGS has not previously begun an active gene therapy program on the GENE or essentially the same GENE; or (4) SP has not exercised its option as described in Paragraph 5.3. For the purposes of this Agreement the term "essentially the same" shall mean that the sequence

of nucleotides comprising the GENE incorporated in a product for GENE THERAPY licensed to a THIRD PARTY, or under development by HGS, is at least *** homologous to such GENE. In the event that HGS indicates to VICAL that HGS has previously begun a program to research and/or develop a product in the FIELD which utilizes, comprises or is based on such GENE or essentially the same GENE, within sixty (60) days thereafter VICAL shall have the right to notify HGS that VICAL at its cost and expense will have an independent THIRD PARTY reasonably acceptable to HGS inspect HGS' records with respect thereto solely for the purpose of verifying that HGS has previously begun such research and development. HGS shall permit such independent THIRD PARTY to effect such inspection within a reasonable time after such notification provided that such THIRD PARTY signs an agreement of confidentiality acceptable to HGS which includes a covenant that the only information which will be provided to VICAL is whether or not HGS has in fact begun such research and/or development.

5.3 Under the terms of the SP/HGS GENE THERAPY LICENSE AGREEMENT, HGS may not license a GENE to VICAL without first notifying SP and offering SP the right to license such GENE. SP has the right to exercise its option to such GENE within thirty (30) days after such notice from HGS. Accordingly, upon written notice from VICAL pursuant to Section 5.1 of its intent to exercise its option to a GENE, and if such GENE would otherwise be available for licensing to VICAL except for the SP option, HGS within ten (10) business days shall notify SP in writing that HGS intends to license the GENE to a THIRD PARTY. Such notice shall not identify VICAL as the THIRD Party. If SP fails to exercise the option within the thirty (30) day period, HGS shall grant an exclusive license to VICAL for the EXCLUSIVE VICAL PRODUCT.

5.4 Within ten (10) days after expiration of the SP option period described in Paragraph 5.3, HGS shall notify VICAL in writing if HGS does not have the right to grant VICAL the license under Paragraph 3.7 for such GENE. Unless HGS timely notifies VICAL in writing that it does not have such a right, HGS hereby grants to VICAL the exclusive

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*** Confidential material redacted and separately filed with the Commission.

license under Paragraph 3.7 for EXCLUSIVE VICAL PRODUCTS directed to such GENE.

5.5 Following a grant to VICAL under Paragraph 5.4 above, VICAL shall not exercise its option for its second or third GENE, as the case may be, until the earlier of (a) the date on which VICAL has granted to HGS the first or second, as the case may be, exclusive license pursuant to Paragraph 3.3 for a GENE; or (b) the date *** after the date on which HGS has granted to VICAL its immediately preceding exclusive license pursuant to Paragraph 3.7 (the "VICAL Holding Period"); provided, however, if HGS receives written notice pursuant to Paragraph 4.2 or 4.3 that a GENE requested by HGS is not available, the VICAL Holding Period shall continue until the later of (i) the expiration of the *** described in clause (b) above, and (ii) the earlier of (A) the date *** after the date on which HGS receives the latest written notice from VICAL pursuant to Paragraph 4.2 or 4.3, and (B) the date *** after the expiration of the *** described in clause (b) above.

5.6 Within thirty (30) days of the grant of the license under Paragraph 3.7

VICAL shall provide HGS with a RESEARCH PLAN for each VICAL RESEARCH GENE for which license rights are granted.

5.7 VICAL will have the sole responsibility for development and commercialization of EXCLUSIVE VICAL PRODUCTS.

5.8 HGS agrees not to grant to any THIRD PARTY any rights or licenses in or to an EXCLUSIVE VICAL PRODUCT or to the use of HGS TECHNOLOGY or HGS PATENTS in the FIELD with respect to essentially the same GENE which is encompassed by such EXCLUSIVE VICAL PRODUCT.

5.9 VICAL may not exercise an option to obtain an exclusive license under Paragraph 3.6 for EXCLUSIVE VICAL PRODUCTS directed to more than three (3) GENES during the term of this Agreement.

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5.10 During the term of this Agreement and for a period of two (2) years thereafter, VICAL shall keep complete and accurate records of its research and development activities conducted under this Agreement regarding EXCLUSIVE VICAL PRODUCTS and the results thereof. Within thirty (30) days after the end of each calendar year during the term of this Agreement, VICAL shall prepare and provide HGS with a reasonably detailed written report of such activities and results through such date.

6 MILESTONES AND ROYALTIES

EXCLUSIVE HGS PRODUCT

6.1 Within thirty (30) days of the granting by VICAL of an exclusive license for each EXCLUSIVE HGS PRODUCT, HGS shall pay to VICAL the sum of ***.

6.2 For the second and third EXCLUSIVE HGS PRODUCTS for which HGS obtains a license under Paragraph 3.3, but not for the first such EXCLUSIVE HGS PRODUCT, HGS shall pay to VICAL a milestone payment of *** upon start of a Phase III clinical trial. Such milestone payment shall be due and payable within thirty (30) days after the start of the trial, which for the purpose of this Paragraph 6.2 shall be the date the first patient is enrolled in the trial. In the event that no Phase III clinical trial is initiated prior to submission of an application for regulatory approval (e.g., a New Drug Application or a Biological License Application) of the PRODUCT, such milestone payment shall be due on the date such submission is submitted to the appropriate regulatory authority. The milestone payments provided in this Paragraph 6.2 shall only be made once for each EXCLUSIVE HGS PRODUCT and shall not be made in the case of improvements or modifications such as, but not limited to, changed forms, formats, formulations, indications, processes or protocols of an EXCLUSIVE HGS PRODUCT for which the payments were previously made.

6.3 Subject to Paragraph 6.4, for each EXCLUSIVE HGS PRODUCT, HGS shall pay to

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*** Confidential material redacted and separately filed with the Commission.

VICAL a royalty of *** of NET SALES of the PRODUCT sold by HGS, and its (sub)licensees and their respective AFFILIATES.

6.4 Royalty obligations under Paragraph 6.3, with respect to an EXCLUSIVE HGS PRODUCT, shall terminate on a country-by-country basis and on an EXCLUSIVE HGS PRODUCT by EXCLUSIVE HGS PRODUCT basis on the later of (i) *** after first country-wide launch of such PRODUCT in such country or (ii) expiration of the last to expire VICAL PATENT licensed to HGS under this Agreement which covers the making, having made, importing, exporting, offering to sell or using or selling of such PRODUCT in such country.

6.5 In the event that HGS licenses an EXCLUSIVE HGS PRODUCT to a THIRD PARTY, HGS shall pay VICAL a percentage of all revenues received under the license for the EXCLUSIVE HGS PRODUCT, other than revenues received as earned royalties, or payments for R&D services provided by HGS to the licensee or monies to purchase equity in HGS at fair market value. The percentage applied to such payments will vary according to the

development stage of the PRODUCT at the time such a license agreement is entered into, as follows:

(a) If such PRODUCT is licensed to a THIRD PARTY prior to the filing of an IND in the United States (or its foreign equivalent in a Major Country), the percentage shall be ***;

(b) If such PRODUCT is licensed to a THIRD PARTY after the filing of an IND in the United States (or its foreign equivalent in a Major Country) but before the completion of an initial Phase II(a) clinical trial, the percentage shall be ***;

(c) If such PRODUCT is licensed to a THIRD PARTY after completion of an initial Phase II(a) clinical trial, the percentage shall be ***.

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*** Confidential material redacted and separately filed with the Commission.

EXCLUSIVE VICAL PRODUCT

6.6 Within thirty (30) days of the granting by HGS of an exclusive license for each EXCLUSIVE VICAL PRODUCT, VICAL shall pay to HGS the sum of ***.

6.7 For the second and third EXCLUSIVE VICAL PRODUCTS for which VICAL obtains a license under Paragraph 3.7, but not for the first such EXCLUSIVE VICAL PRODUCT, VICAL shall pay to HGS a milestone payment *** upon start of a Phase III clinical trial. Such milestone payment shall be due and payable within thirty (30) days after the start of the trial, which for the purpose of this Paragraph shall be the date the first patient is enrolled in the trial. In the event that no Phase III clinical trial is initiated prior to submission of an application for regulatory approval (e.g., a New Drug Application or a Biological License Application) of the PRODUCT, such milestone payment shall be due on the date such submission is submitted to the appropriate regulatory authority. The milestone payments provided in this Paragraph 6.7 shall only be made once for each EXCLUSIVE VICAL PRODUCT and shall not be made in the case of improvements or modifications such as, but not limited to, changed forms, formats, formulations, indications, processes or protocols of an EXCLUSIVE VICAL PRODUCT for which the payments were previously made.

6.8 Subject to Paragraph 6.9, for each EXCLUSIVE VICAL PRODUCT, VICAL shall pay to HGS a royalty of *** of NET SALES of the PRODUCT sold by VICAL, and its (sub)licensees and their respective AFFILIATES.

6.9 Royalty obligations under Paragraph 6.8, with respect to an EXCLUSIVE VICAL PRODUCT, shall terminate on a country-by-country basis and on an EXCLUSIVE VICAL PRODUCT by EXCLUSIVE VICAL PRODUCT basis on the later of (i) *** after first country-wide launch of such PRODUCT in such country or (ii) expiration of the last to expire HGS PATENT licensed to VICAL under this Agreement which covers the making, having made, importing, exporting, offering to sell or using or selling of such

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PRODUCT in such country.

6.10 In the event that VICAL licenses an EXCLUSIVE VICAL PRODUCT to a THIRD PARTY, VICAL shall pay HGS a percentage of all revenues received under the license for the EXCLUSIVE VICAL PRODUCT, other than revenues received as earned royalties, payments for R&D services provided by VICAL to the licensee or monies to purchase equity in VICAL at fair market value. The percentage applied to such payments will vary according to the development stage of the PRODUCT at the time such license agreement is entered into, as follows:

(a) If such PRODUCT is licensed to a THIRD PARTY prior to the filing of an IND in the United States (or its foreign equivalent in a Major Country), the percentage shall be ***;

(b) If such PRODUCT is licensed to a THIRD PARTY after the filing of an IND in the United States (or its foreign equivalent in a Major Country) but before the completion of an initial Phase II(a) clinical trial, the percentage shall be ***;

(c) If such PRODUCT is licensed to a THIRD PARTY after completion of an initial Phase II(a) clinical trial, the percentage shall be ***.

MISCELLANEOUS

6.11 For purposes of this Article 6, (a) "Phase II(a) clinical trial" shall mean an initial human clinical trial in a Major Country that is intended to initially evaluate the effectiveness of a PRODUCT for a particular indication or indications in patients with the disease or indication under study, or that would otherwise satisfy requirements of 21 CRF 312.21(b); (b) "Phase III clinical trial" shall mean a human clinical trial in a Major Country the results of which could be used as pivotal to establish safety and efficacy of a PRODUCT as a basis for a marketing approval application submitted to the U.S. FDA or a foreign equivalent, or that would otherwise satisfy requirements of 21 CRF 312.21(c);

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and, (c) "Major Country" shall mean the United States, any country in the European Union, Canada or Japan.

6.12 If, at the time when any milestone payment listed in the applicable Paragraph under this Article 6 with respect to a PRODUCT is due from a party, such party has not paid all other milestone payments (if any) previously listed in such Paragraph with respect to such PRODUCT, then at such time such party shall pay all such unpaid milestone payments (if any) previously listed in such Paragraph with respect to such PRODUCT. If, at the time of the first commercial sale of a PRODUCT by a party, its AFFILIATE or permitted licensee, such party has not paid all milestone payments (if any) listed in the applicable Paragraph under this Article 6 with respect to such PRODUCT, then at such time such party shall pay all such unpaid milestone payments (if any) listed in such Paragraph with respect to such PRODUCT.

6.13 The manner in which statements and remittances of royalty and other payments are handled is as set forth in Article 11 hereof.

6.14 All payments to be made hereunder shall be by wire transfer of immediately available funds to an account designated by VICAL or HGS, whoever is to be the recipient of such funds.

7 TECHNOLOGY TRANSFER

7.1 To assist VICAL in the selection of three (3) GENES for exclusive licensing pursuant to Paragraph 3.7, HGS scientists shall meet with VICAL scientists to discuss therapeutic areas of interest to VICAL and to develop criteria and search parameters for potential GENES of interest to VICAL. Upon VICAL's request, HGS shall search the HGS DATABASES for GENES that meet those criteria and parameters and will provide VICAL with a list of the candidates resulting from such searches.

7.2 VICAL shall have the right to identify a reasonable number of GENES (***) as VICAL

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RESEARCH GENES. These genes may be based on the candidates identified pursuant to Paragraph 7.1 or may be independently identified by VICAL. For each such VICAL RESEARCH GENE, HGS will provide VICAL to the extent available all sequence data related to such GENE contained in the HGS DATABASES and any HGS clones related to that GENE. HGS will be required to furnish such data and clones only to the extent that HGS would be able to grant VICAL an EXCLUSIVE LICENSE to such GENE pursuant to Paragraph 3.7.

7.3 HGS shall have the right to identify a reasonable number of GENES (***) as HGS RESEARCH GENES.

7.4 To assist HGS in the utilization of VICAL TECHNOLOGY, VICAL scientists will meet with HGS scientists to discuss the application of VICAL

TECHNOLOGY to HGS RESEARCH GENES and will provide to HGS any know-how or proprietary materials necessary for HGS to use the VICAL TECHNOLOGY with respect to an HGS RESEARCH GENE in accordance with the research license granted in Paragraph 3.1. VICAL will be required to furnish such information only to the extent that VICAL would be able to grant HGS an EXCLUSIVE LICENSE to such HGS RESEARCH GENE pursuant to Paragraph 3.3.

7.5 Pursuant to Paragraphs 7.1 and 7.4, HGS and VICAL agree to make their scientists reasonably available to the other.

8 PRODUCT DEVELOPMENT

8.1 VICAL shall use reasonable efforts to actively research, develop, market, promote and sell each royalty bearing EXCLUSIVE VICAL PRODUCT.

8.2 During the term of this Agreement and for a period of five (5) years thereafter, VICAL shall keep complete and accurate records of its activities conducted under this Agreement regarding the development and commercialization of EXCLUSIVE VICAL PRODUCTS

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*** Confidential material redacted and separately filed with the Commission.

and the results thereof. Within thirty (30) days after the end of each calendar year during the term of this Agreement, VICAL shall prepare and provide HGS with a reasonably detailed written report of such activities and results, through such date.

8.3 If at any time VICAL elects not to continue the development and commercialization of an EXCLUSIVE VICAL PRODUCT, or fails to use reasonable efforts to actively research, develop, market, promote and sell each such PRODUCT as required by Paragraph 8.1, all relevant licenses granted by HGS pursuant to this Agreement shall terminate.

8.4 HGS shall use reasonable efforts to actively research, develop, market, promote and sell each royalty bearing EXCLUSIVE HGS PRODUCT.

8.5 During the term of this Agreement and for a period of five (5) years thereafter, HGS shall keep complete and accurate records of its activities conducted under this Agreement regarding the development and commercialization of EXCLUSIVE HGS PRODUCTS and the results thereof. Within thirty (30) days after the end of each calendar year during the term of this Agreement, HGS shall prepare and provide VICAL with a reasonably detailed written report of such activities and results, through such date.

8.6 If at any time HGS elects not to continue the development and commercialization of an EXCLUSIVE HGS PRODUCT, or fails to use reasonable efforts to actively research, develop, market, promote and sell each such PRODUCT as required by Paragraph 8.4 all relevant licenses granted by VICAL pursuant to this Agreement shall terminate; provided however, that if HGS is pursuing development and commercialization of a gene therapy product not derived from VICAL TECHNOLOGY, but directed to the same gene as the EXCLUSIVE HGS PRODUCT, HGS shall have the option at its sole discretion to retain the relevant VICAL licenses by paying to VICAL the milestones and royalties set forth in Paragraph 6.1, on the development and sale of such non-VICAL derived product.

9 CONFIDENTIALITY

9.1 During the term of this Agreement and for a period of *** following the expiration or earlier termination hereof, each party shall maintain in confidence the CONFIDENTIAL INFORMATION of the other party, and shall not disclose, use or grant the use of the CONFIDENTIAL INFORMATION of the other party except on a need-to-know basis to such party's AFFILIATES, directors, officers, employees, agents, independent contractors and such party's THIRD PARTY licensors of intellectual property rights (sub)licensed hereunder, and such party's consultants, to the extent such disclosure is reasonably necessary in connection with such party's activities as expressly authorized by this Agreement. To the extent that disclosure to any person is authorized by this Agreement, prior to disclosure, a party shall obtain written agreement of such person to hold in confidence and not disclose, use or grant the use of the CONFIDENTIAL INFORMATION of the other party except as

expressly permitted under this Agreement. Each party shall notify the other party promptly upon discovery of any unauthorized use or disclosure of the other party's CONFIDENTIAL INFORMATION. Upon the expiration or earlier termination of this Agreement, each party shall return to the other party all tangible items regarding the CONFIDENTIAL INFORMATION of the other party and all copies thereof; provided, however, that each party shall have the right to retain one (1) copy for its legal files for the sole purpose of determining its obligations hereunder.

9.2 All confidential information disclosed by one party to the other party shall remain the intellectual property of the disclosing party. In the event that a court or other legal or administrative tribunal, directly or through an appointed master, trustee or receiver, assumes partial or complete control over the assets of a party to this Agreement based on the insolvency or bankruptcy of such party, the bankrupt or insolvent party shall promptly notify the court or other tribunal (i) that confidential information received from the other party under this Agreement remains the property of the other party and (ii) of the confidentiality obligations under this Agreement. In addition, the bankrupt or insolvent

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party shall, to the extent permitted by law, take all steps necessary or desirable to maintain the confidentiality of the other party's confidential information and to insure that the court, other tribunal or appointee maintains such information in confidence in accordance with the terms of this Agreement.

9.3 No public announcement or public disclosure concerning (i) the existence of or terms of this Agreement, (ii) research and/or discoveries made by one party, (iii) milestones achieved by one party, or (iv) exercise by one party of rights and options granted under this Agreement, shall be made, either directly or indirectly, by any other party to this Agreement without prior written notice and, except as may be legally required, or as may be legally required for a public offering of securities, or as may be required for recording purposes, without first obtaining the approval of the other party and agreement upon the nature and text of such announcement, such agreement and/or approval not to be unreasonably withheld. Except as otherwise required by law, the party desiring to make any such public announcement or public disclosure shall inform the other party of the proposed announcement or disclosure at least five (5) business days prior to public release, and shall provide the other party with a written copy thereof, in order to allow such other party to comment upon such announcement or disclosure. This Paragraph shall not apply to any information in a public announcement or public disclosure that is information essentially identical to that contained in a previous public announcement or public disclosure agreed to pursuant to this paragraph.

9.4 The confidentiality obligations under Paragraphs 9.1 and 9.2 shall not apply to the extent that a party is required to disclose information by applicable law, regulation or order of a governmental agency or a court of competent jurisdiction; provided, however, that to the extent practical such party (a) shall provide written notice thereof to the other party and consult with the other party prior to such disclosure with respect, thereto, and (b) shall provide the other party sufficient opportunity to object to any such disclosure or to request confidential treatment thereof, and provide reasonable assistance as requested in connection therewith.

9.5 Both parties agree that all RESEARCH PLANS submitted by a party to the other party

pursuant to this Agreement shall be strictly confidential and that all RESEARCH PLANS will not be utilized by or on behalf of the receiving party for any purpose other than as authorized under this Agreement.

9.6 Each party hereto acknowledges that the remedy at law for breach by any party of its obligations under this Section 9 is inadequate and that each party shall be entitled to equitable remedies, including injunctive relief, in the event of a breach by the other party.

9.7 The provisions of this Section 9 are in addition to an do not supercede and are not superceded by similar provisions in any other agreements.

10 PATENT PROSECUTION AND LITIGATION

10.1 All right, title and interest to the VICAL TECHNOLOGY and all patent rights and other intellectual property rights therein shall belong solely to VICAL. VICAL shall have the sole right and responsibility for the filing, prosecution and maintenance of patents and patent applications directed thereto.

10.2 All right, title and interest to the HGS TECHNOLOGY and all patent rights and other intellectual property rights therein shall belong solely to HGS. HGS shall have the sole right and responsibility for the filing, prosecution and maintenance of patents and patent applications directed thereto.

10.3 With respect to any patent covering HGS IMPROVEMENTS or VICAL IMPROVEMENTS that is a joint invention of both HGS and VICAL, HGS and VICAL shall share equally in the cost and expense thereof. Unless the parties otherwise agree, HGS shall be the lead party on HGS IMPROVEMENTS and VICAL shall be the lead party on VICAL IMPROVEMENTS. The lead party shall consult with the other with respect to strategies for filing, prosecution and maintenance of patents and patent applications for which it bears responsibility under this paragraph, and shall keep the other reasonably informed with regard to filing, prosecution and maintenance activity for such patents and patent applications. In the event the lead party does not intend to prepare, file, prosecute and/or maintain patent protection in any country with respect to such joint invention, the lead party shall notify the other party and the other party may

assume such responsibility at its own cost and expense. Any patent on such joint invention shall be considered both an HGS PATENT and a VICAL PATENT.

10.4 Both parties will provide the other reasonable assistance to enable the other to prepare, file, prosecute and maintain patents pursuant to this Article 10.

10.5 In the event of the institution of any suit by a THIRD PARTY,

(a) against VICAL, its AFFILIATES, or its licensees (other than HGS) for patent infringement involving the manufacture, use, import, export, offer for sale, sale, distribution or marketing of EXCLUSIVE VICAL PRODUCT, VICAL shall promptly notify HGS in writing. As between HGS and VICAL, VICAL shall be solely responsible for the cost and expense of such action and any liability, which results therefrom;

(b) against HGS, its AFFILIATES, or its licensees (other than VICAL) for patent infringement involving the manufacture, use, import, export, offer for sale, sale, distribution or marketing of EXCLUSIVE HGS PRODUCT, HGS shall promptly notify VICAL in writing. As between HGS and VICAL, HGS shall be solely responsible for the cost and expense of such action and any liability, which results therefrom;

(c) The party defending an action under this Paragraph 10.5 shall have full control over its conduct, including settlement thereof provided such settlement shall not be made without the prior written consent of the other party if it would adversely affect the patent rights of such party licensed hereunder.

10.6 In the event that HGS or VICAL becomes aware of actual or threatened infringement of a VICAL PATENT or HGS PATENT that claims an EXCLUSIVE VICAL PRODUCT or EXCLUSIVE HGS PRODUCT or the use thereof, that party shall promptly notify the other party in writing. The owner of the VICAL PATENT or HGS PATENT shall have the first right but not the obligation to bring, at its own expense, an infringement action against any THIRD PARTY and to use the other party's name in connection therewith. If the owner of the patent does not commence a particular infringement action within ninety (90) days, the other party, after notifying the owner in writing, shall be entitled to bring such infringement action, in its own name and/or in the name of the patent owner, at its own expense to the extent that such party is licensed thereunder. The foregoing notwithstanding, in the event that an alleged infringer certifies pursuant to 21 U.S.C. Section 355(b)(2)(A)(iv) against an issued VICAL PATENT or HGS PATENT that claims EXCLUSIVE VICAL PRODUCT or EXCLUSIVE HGS PRODUCT or the use thereof,

as between the patent owner and the owner of the product, the party receiving notice of such certification shall immediately notify the other party of such certification, and if fourteen (14) days prior to expiration of the forty five (45) day period set forth in 21 U.S.C. Section 355(c)(3)(C), the owner of the patent fails to commence an infringement action, the party receiving notice, in its sole discretion, at its own expense and to the extent that it is licensed under the patent, shall be entitled to bring such infringement action in its own name and/or in the name of the patent owner. The party conducting an action under this Paragraph 10.6 shall have full control over its conduct, including settlement thereof provided such settlement shall not be made without the prior written consent of the other party if it would adversely affect the patent rights of such party licensed hereunder. The licensing party (i.e., the patent owner) and the licensed party (i.e., the owner of the product) shall reasonably assist one another and cooperate in any such litigation at the other's request, each such party paying its own costs and expenses. The party conducting the litigation shall periodically reimburse the other party for its reasonable and actual out-of-pocket expenses incurred at the request of the party conducting the litigation for assisting in the litigation, which reimbursement shall be made within thirty (30) days of receipt by the party conducting the litigation of itemized invoices from the assisting party documenting such expenses.

10.7 Any recovery made by a party as the result of an action for patent infringement it has conducted under Paragraph 10.6 shall be distributed as follows:

(a) The party conducting the action shall recover its actual out-of-pocket expenses, and then shall reimburse the other party for any unreimbursed actual and out-of-pocket expenses.

(b) To the extent that the recovery exceeds the total of item (a), the excess shall be kept by the party conducting the action, provided, however, that to the extent that (i) the recovery is based on an award of lost sales/profits, and (ii) the party conducting the action would have incurred a royalty obligation to the other party based upon such sales, the party to whom such royalties would have been due shall receive a proportion of the excess recovery corresponding to the royalty percentage it would have otherwise been due.

10.8 The parties shall periodically keep one another reasonably informed of the status of their respective activities regarding any such litigation or settlement thereof.

11 STATEMENTS AND REMITTANCES

11.1 VICAL and HGS, as the case may be, shall keep and require its AFFILIATES and licensees to keep complete and accurate records of all sales and calculations for NET SALES of PRODUCTS. Each party shall have the right, at its expense, through an independent certified public accounting firm of nationally recognized standing reasonably acceptable to the other party, to examine pertinent financial records during regular business hours upon proper advance written notice during the life of this Agreement and for *** after its termination for the purpose of verifying and reporting to HGS or VICAL as to the computation of the royalty payments made hereunder during the preceding *** prior to the date of such examination; provided, however, that such examination shall not take place more often than once a year; provided further that such accountant shall report only as to the accuracy of the royalty statements and payments, including the magnitude and source of any discrepancy. VICAL, HGS, and their respective AFFILIATES and licensees shall be required to maintain such sales and royalty calculation records for ***. The accountant shall execute customary confidentiality agreements prior to any examination, reasonably satisfactory in form and substance to both parties, to maintain in confidence all information obtained during the course of any such examination, except for disclosure to the parties, as necessary for the above purpose.

11.2 Within sixty (60) days after the close of each calendar quarter, VICAL and HGS, as the case may be, shall deliver to the other party a true accounting of all amounts owing hereunder sold by it and its licensees and distributors during such calendar quarter and shall at the same time pay all amounts due.

11.3 All royalties and other payments due under this Agreement shall be payable in U.S. dollars.

11.4 Royalties payable on sales in countries other than the United States shall be calculated by

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*** Confidential material redacted and separately filed with the Commission.

multiplying the appropriate royalty rate times the sales in each currency in which they are made and converting the resulting amount into United States dollars, at the rates of exchange as reported in The Wall Street Journal as published under the caption

"Currency Trading", on the last business day in New York, New York of each royalty period. If the Wall Street Journal ceases to be published, then the rate of exchange to be used shall be that reported in such other business publication as all parties reasonably agree. Such payments shall be without deduction of exchange, collection, or other charges. If, due to restrictions or prohibitions imposed by a national or international authority, payments cannot be made as aforesaid, the parties shall consult with a view to finding a prompt and acceptable solution, and the parties will deal with such monies as the other party may lawfully direct at no additional out-of-pocket expense to the party owed the royalty. Notwithstanding the foregoing, if royalties cannot be remitted for any reason within six (6) months after the end of the calendar quarter during which they are earned, then the party owing the royalty shall be obligated to deposit the royalties in a bank account in the country of sale in the name of the other party. Each party shall deduct any taxes which the party is obligated to pay and/or withhold in a country based on royalties due to the other based on sales in such country from royalty payments due for such country under this Agreement and pay them to the proper authorities as required by applicable laws. Each party shall maintain official receipts of payment of any such taxes and forward these receipts to the other within sixty (60) days.

11.5 All payments to be made hereunder shall be by wire transfer of immediately available funds to an account designated by HGS or VICAL, whoever is to be the recipient of such funds.

12 TERM AND TERMINATION

12.1 This Agreement shall come into effect as of the Effective Date, and unless earlier terminated as provided in this Article 12, shall remain in full force and effect on a PRODUCT by PRODUCT and country-by-country basis, until the last to expire of the applicable party's royalty obligations under this Agreement with respect to such PRODUCT in such country.

12.2 A party shall have the right to terminate this Agreement with respect to any PRODUCT upon the material breach by the other party of the other party's obligations with respect to such PRODUCT under Article 8 if such breach is not cured within sixty (60) days after receipt of written notice from such party thereof. Notwithstanding the foregoing, a party may not terminate this Agreement during the pendency of an arbitration proceeding under this Agreement in which the other party reasonably contests whether it has failed to meet its obligations under Article 8.

12.3 A party shall have the right to terminate this Agreement in its entirety (a) upon the material breach by the other party of the other party's obligations to pay any amounts owing hereunder, if such breach is not cured within thirty (30) days after receipt of written notice from such party thereof, or (b) upon the material breach by the other party of the other party's obligations (other than obligations under Article 8 or obligations to pay any amounts owing hereunder), if such breach is not cured within sixty (60) days after receipt of written notice from such party thereof. Notwithstanding the foregoing, a party may not terminate this Agreement during the pendency of an arbitration proceeding under this Agreement in which the other party reasonably contests whether a royalty or other amount is due hereunder, or whether it has failed to satisfy its other obligations hereunder.

12.4 Either party, may terminate this Agreement if, at any time, the other party shall file in any court or agency pursuant to any statute or regulation of any state or country, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the

appointment of a receiver or trustee of the party or of its assets, or if the other party proposes a written agreement of composition or extension of its debts, or if the other party shall be served with an involuntary petition against it, filed in any insolvency proceeding, and such petition shall not be dismissed within sixty (60) days after the filing thereof, or if the other party shall propose or be a party to any dissolution or liquidation, or if the other party shall make an assignment for the benefit of creditors.

12.5 Neither party shall have the right to terminate this Agreement except under Paragraphs 12.2, 12.3 and 12.4, provided however that nothing in this Agreement shall limit any remedies for breach which may be available pursuant to a judgment of a court, in law or

equity, including termination of this Agreement or of any or all rights hereunder, except that any action seeking remedies for breach of this Agreement shall be conducted in accordance with Article 16.

12.6 Notwithstanding termination of this Agreement, the rights and obligations of the parties under Articles 9, 10, 12, 13, 14 and 16 and Paragraphs 3.12, 3.13, 3.14 and 3.15 shall survive such termination, as well as any provision not specified in this paragraph which is clearly meant to survive termination of this Agreement. Upon expiration of this Agreement under Paragraph 12.1 with respect to a particular PRODUCT in a particular country, the licenses granted under Paragraphs 3.3 and 3.6 under VICAL TECHNOLOGY and HGS TECHNOLOGY shall survive on a non-exclusive basis.

12.7 Termination of the Agreement in accordance with the provisions hereof shall not limit remedies that may be otherwise available in law or equity.

13 WARRANTIES AND REPRESENTATIONS

13.1 Each of HGS and VICAL hereby represents, warrants and covenants to the other, as of the date of this Agreement, as follows:

(a) it is a corporation duly organized and validity existing under the laws of the state of its incorporation;
(b) the execution, delivery and performance of this Agreement by such party has been duly authorized by all requisite corporate action;
(c) it has the power and authority to execute and deliver this Agreement and to perform its obligations hereunder, including, without limitation, the right, power and authority to grant the licenses under Article 3;
(d) the execution, delivery and performance by such party of this Agreement and its compliance with the terms and provisions hereof to such party's best knowledge does not conflict with or result in a breach of any of the terms and provisions of or constitute a default under (i) a loan agreement, guaranty, financing agreement,

agreement affecting a product or other agreement or instrument binding or affecting it or its property; (ii) the provisions of its charter documents or bylaws; or (iii) any order, writ, injunction or decree of any court or governmental authority entered against it or by which any of its property is bound; and
(e) this Agreement constitutes such party's legal, valid and binding obligation enforceable against it in accordance with its terms subject, as to enforcement, to bankruptcy, insolvency, reorganization and other laws of general applicability relating to or affecting creditors' rights and to the availability of particular remedies under general equity principles.

13.2 No party to this Agreement has in effect, and, after the date of this Agreement, no party shall enter into any written agreement that would be inconsistent with its obligations under this Agreement.

13.3 NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A WARRANTY THAT VICAL PATENTS OR HGS PATENTS ARE VALID OR ENFORCEABLE OR THAT THEIR EXERCISE OR THE EXERCISE OF HGS TECHNOLOGY OR VICAL TECHNOLOGY DOES NOT INFRINGE ANY PATENT RIGHTS OF THIRD PARTIES. A HOLDING OF INVALIDITY OR UNENFORCEABILITY OF ANY SUCH PATENT, FROM WHICH NO FURTHER APPEAL IS OR CAN BE TAKEN, SHALL NOT AFFECT ANY OBLIGATION HEREUNDER, BUT SHALL ONLY ELIMINATE ROYALTIES OTHERWISE DUE UNDER SUCH PATENT FROM THE DATE SUCH HOLDING BECOMES FINAL.

13.4 EXCEPT AS OTHERWISE EXPRESSLY SET FORTH HEREIN HGS AND VICAL MAKE NO REPRESENTATIONS OR EXTEND ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT.

13.5 Each party shall use any materials provided by the other party under this Agreement in compliance with all applicable laws and regulations.

14 INDEMNIFICATION

14.1 VICAL shall defend, indemnify and hold harmless HGS, its AFFILIATES, licensors of HGS and each of their respective directors, officers, shareholders, agents and employees, from and against any and all liability, loss, damages and expenses (including reasonable attorneys' fees) as the result of claims, demands, actions or proceedings by any THIRD PARTY which are made or instituted against any of them arising out of the development, manufacture, possession, distribution, use, testing, sale or other disposition of any EXCLUSIVE VICAL PRODUCT by or through VICAL, its AFFILIATES or any THIRD PARTY granted rights by VICAL under this Agreement. VICAL's obligation to defend, indemnify and hold harmless shall include claims, demands, actions or proceedings, whether for money damages or equitable relief by reason of alleged personal injury (including death) to any person or alleged property damage, provided, however, the indemnity shall not extend to any claims against an indemnified party which result from the gross negligence or willful misconduct of an indemnified party. VICAL shall have the exclusive right to control the defense of any action which is to be indemnified in whole by VICAL hereunder, including the right to select counsel reasonably acceptable to HGS to defend HGS and the indemnified parties hereunder, and to settle any claim, demand, action or proceeding, provided that, without the prior written consent of HGS (which shall not be unreasonably withheld or delayed), VICAL shall not agree to settle any claim, demand, action or proceeding against HGS to the extent such claim has a material adverse effect on HGS. The provisions of this Paragraph 14.1 shall survive and remain in full force and effect after any termination, expiration or cancellation of this Agreement and the obligation hereunder shall apply whether or not such claims are rightfully brought. VICAL shall require each licensee to agree to indemnify HGS in a manner consistent with this Paragraph 14.1.

14.2 HGS shall defend, indemnify and hold harmless VICAL, its AFFILIATES, licensors of VICAL and each of their respective directors, officers, shareholders, agents and employees, from and against any and all liability, loss, damages and expenses (including reasonable attorneys' fees) as the result of claims, demands, actions or proceedings by a THIRD PARTY which are made or instituted against any of them arising out of the

development, manufacture, possession, distribution, use, testing, sale or other disposition of EXCLUSIVE HGS PRODUCT by or through HGS, its AFFILIATES or any THIRD PARTY granted rights by HGS under this Agreement. HGS' obligation to defend, indemnify and hold harmless shall include claims, demands, actions or proceedings, whether for money damages or equitable relief by reason of alleged personal injury (including death) to any person or alleged property damage, provided, however, the indemnity shall not extend to any claims against an indemnified party which result from the gross negligence or willful misconduct of an indemnified party. HGS shall have the exclusive right to control the defense of any action which is to be indemnified in whole by HGS hereunder, including the right to select counsel reasonably acceptable to VICAL to defend VICAL and the indemnified parties hereunder, and to settle any claim, demand, action or proceeding, provided that, without the prior written consent of VICAL (which shall not be unreasonably withheld or delayed), HGS shall not agree to settle any claim, demand, action or proceeding against VICAL to the extent such claim has a material adverse effect on VICAL. The provisions of this Paragraph 14.2 shall survive and remain in full force and effect after any termination, expiration or cancellation of this Agreement and the obligation hereunder shall apply whether or not such claims are rightfully brought. HGS shall require each licensee to agree to indemnify VICAL in a manner consistent with this Paragraph 14.2.

14.3 A person or entity that intends to claim indemnification under this Article 14 (the "Indemnitee") shall promptly notify the other party (the "Indemnitor") of any claim, demand, action or proceeding for which the Indemnitee intends to claim such indemnification, and the

Indemnitor, after it determines that indemnification is required of it, shall assume the defense thereof with counsel selected by the Indemnitor and reasonably acceptable to the other party, provided, however, that an Indemnitee shall have the right to retain its own counsel, with the fees and expenses to be paid by the Indemnitor if Indemnitor does not assume the defense; or, if representation of such Indemnitee by the counsel retained by the Indemnitor would be inappropriate due to actual or potential conflicts of interest between such Indemnitee and any other party represented by such counsel in such proceedings. The indemnity agreement in this Article 14 shall not apply to amounts paid in settlement of any claim, demand, action or

proceeding if such settlement is effected without the consent of the Indemnitor, which consent shall not be unreasonably withheld or delayed. The failure to deliver notice to the Indemnitor within a reasonable time after the commencement of any such action, if prejudicial to its ability to defend such action, shall relieve such Indemnitor of any liability to the Indemnitee under this Article 14, but failure to deliver notice to the Indemnitor will not relieve it of any liability that it may have to any Indemnitee otherwise than under this Article 14. The Indemnitee under this Article 14, its employees and agents, shall cooperate reasonably with the Indemnitor and its legal representatives in the investigations of any claim, demand, action or proceeding covered by this indemnification. In the event that each party claims indemnity from the other and one party is finally held liable to indemnify the other, the Indemnitor shall additionally be liable to pay the reasonable legal costs and attorneys' fees incurred by the Indemnitee in establishing its claim for indemnity.

15 FORCE MAJEURE

15.1 If the performance by a party of any obligation under this Agreement (other than an obligation for a payment of money), is prevented, restricted, interfered with or delayed by reason of any reasonable, unforeseeable cause beyond the reasonable control of the party liable to perform, the party so affected shall, upon giving written notice to the other party, be excused from such performance to the extent of such prevention, restriction, interference or delay, provided that the affected party shall use its commercially reasonable efforts to avoid or remove such causes of non-performance and shall continue performance with the utmost dispatch whenever such causes are removed. When such circumstances arise, the parties shall discuss what, if any, modification of the terms of this Agreement may be required in order to arrive at an equitable solution.

16 DISPUTE RESOLUTION

16.1 This Agreement shall be construed and enforced in accordance with the laws of the State of Delaware (without reference to the conflicts of law principles thereof).

16.2 In the event of any controversy, dispute or claim arising out of or relating to any provision of this Agreement or the breach thereof, the parties shall use good faith efforts

to settle such controversy, dispute, or claim amicably between themselves.

16.3 Should the parties fail to reach mutually acceptable settlement of any controversy, dispute or claim which may arise out of or in connection with this Agreement, or the breach, termination or validity thereof (other than with respect to patent validity) shall be settled by final and binding arbitration pursuant to the Commercial Arbitration Rules of the American Arbitration Association ("AAA") as herein provided.

(a) The Arbitration Tribunal shall consist of three arbitrators. Each party shall nominate in the request for arbitration and the answer thereto one arbitrator and the two arbitrators so named will then jointly appoint the third arbitrator as chairman of the Arbitration Tribunal. If one party fails to nominate its arbitrator or, if the parties' arbitrators cannot agree on the person to be named as chairman within sixty (60) days, the necessary appointments shall be made under the rules of the AAA.

(b) The place of arbitration shall be in Chicago, Illinois and the arbitration proceedings shall be held in English. The procedural law of the State of Illinois shall apply where the AAA Rules are silent.

The award of the Arbitration Tribunal shall be final and judgment upon such an award may be entered in any competent court or application may be made to any competent court for judicial acceptance of such an award and order of enforcement. Notwithstanding the foregoing, nothing contained herein shall prevent either party from seeking interim relief from a court of competent jurisdiction pending the establishment of or a decision by a panel of arbitrators.

17 SEPARABILITY

17.1 In the event any portion of this Agreement shall be held illegal, void or ineffective, the remaining portions hereof shall remain in full force and effect.

17.2 If any of the terms or provisions of this Agreement are in conflict with any applicable statute or rule of law, then such terms or provisions shall be deemed inoperative to the extent that they may conflict therewith and shall be deemed to be modified to conform with such statute or rule of law.

17.3 In the event that the terms and conditions of this Agreement are materially altered as a result of Paragraphs 17.1 or 17.2, the parties will, in good faith, renegotiate the terms and conditions of this Agreement to resolve any inequities.

18 ENTIRE AGREEMENT

18.1 This Agreement, together with the Appendices hereto, entered into as of the date written above constitutes the entire agreement between the parties relating to the subject matter hereof and supersedes all previous writings and understandings. No terms or provisions of this Agreement shall be varied or modified by any prior or subsequent statement, conduct or act of either of the parties, except that the parties may amend this Agreement by written instruments specifically referring to and executed in the same manner as this Agreement.

19 NOTICES

19.1 Any notice required or permitted under this Agreement shall be hand-delivered or sent by express delivery service or certified or registered mail, postage prepaid, or by fax with written confirmation by mail, to the following addresses of the parties:

HUMAN GENOME SCIENCES, INC.
9410 Key West Avenue
Rockville, MD 20850
Attn: Senior Vice President, Corporate Development
Fax: 301-762-5181

copy to:
HUMAN GENOME SCIENCES, INC.
9410 Key West Avenue
Rockville, Maryland 20850
Attn: General Counsel
Fax: 301-309-8439

VICAL INCORPORATED
9373 Towne Center Drive
San Diego, California 92121
Attn: President
Fax: 858-646-1150

copy to:
PILLSBURY MADISON & SUTRO
50 Fremont Street
San Francisco, California 94105
Attn: Thomas E. Sparks, Jr.
Fax: 415-983-7396

19.2 Any notice required or permitted to be given concerning this Agreement shall be

effective upon receipt by the party to whom it is addressed.

20 ASSIGNMENT AND CHANGE OF CONTROL

20.1 This Agreement and the licenses herein granted shall be binding upon and inure to the benefit of the parties and their respective permitted

assignees and successors in interest of the respective parties. Neither this Agreement nor any interest hereunder shall be assignable by a party without the prior written consent of the other party and any attempted assignment contrary to this Paragraph 20.1 shall be void and without force and effect. Notwithstanding the foregoing, a party may assign this Agreement and all its rights and obligations hereunder to any AFFILIATE or to any THIRD PARTY in connection with the transfer or sale of all or substantially all of its business, or all or substantially all of its assets to which this Agreement relates, or in the event of its merger, consolidation, change in control or similar transaction, without obtaining the consent of the other party, provided that the THIRD PARTY assignee or surviving entity assumes in writing all of its obligations under this Agreement.

20.2 ***

21 COUNTERPARTS

21.1 This Agreement may be executed in any number of counterparts, and each such counterpart shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement.

22 WAIVER

22.1 Any delay or failure in enforcing a party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such party's rights to the future enforcement of its rights under this Agreement, nor operate to bar the exercise or enforcement thereof at any time or times thereafter, excepting only as to an express

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*** Confidential material redacted and separately filed with the Commission.

written and signed waiver as to a particular matter for a particular period of time.

22.2 Notwithstanding the foregoing, in the event VICAL or HGS challenges whether any payments contemplated hereunder (including, without limitation royalties or milestones) are due, it shall have the right, but not the obligation, to make such payments under protest (reserving all rights hereunder) pending resolution of such dispute.

23 INDEPENDENT RELATIONSHIP

23.1 Nothing herein contained shall be deemed to create an employment, agency, joint venture or partnership relationship between the parties hereto or any of their agents or employees, or any other legal arrangement that would impose liability upon one party for the act or failure to act of the other party. No party shall have any power to enter into any contracts or commitments or to incur any liabilities in the name of, or on behalf of, the other party, or to bind the other party in any respect whatsoever.

24 FURTHER ACTIONS

24.1 Each party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

IN WITNESS WHEREOF, the parties, through their authorized officers, have executed this Agreement as of the Effective Date.

VICAL INCORPORATED

BY: /s/ Alain B. Schreiber

Alain B. Schreiber, M.D.
Title: President and Chief Executive Officer

HUMAN GENOME SCIENCES, INC.

BY: /s/ Arthur M. Mandell

Arthur M. Mandell
Title: Sup. Corporate Development

APPENDIX A

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*** Confidential material redacted and separately filed with the Commission.

APPENDIX B

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*** Confidential material redacted and separately filed with the Commission.

EXHIBIT 10.22

[CONFIDENTIAL TREATMENT REQUESTED. CONFIDENTIAL PORTIONS OF THIS AGREEMENT HAVE BEEN REDACTED AND HAVE BEEN SEPARATELY FILED WITH THE COMMISSION.]

LICENSE AGREEMENT
BETWEEN
VASCULAR GENETICS INC.
AND
VICAL INCORPORATED

FEBRUARY 24, 2000

TABLE OF CONTENTS

<TABLE>

<S> <C>

</TABLE>

LICENSE AGREEMENT

This Agreement ("Agreement") dated as of the 24th day of February 2000 ("Effective Date") is entered into by Vascular Genetics Inc. ("VGI"), a Delaware corporation, having a place of business at Suite 201, 4364 S. Alston Avenue, Durham, North Carolina 27713, and Vical Incorporated, a Delaware corporation, having a place of business at 9373 Towne Center Drive, San Diego, California 92121 ("VICAL").

1. BACKGROUND.

1.1 VGI has an exclusive license from Human Genome Sciences, Inc. ("HGS") for the use of the gene Vascular Endothelial Growth Factor-2 ("VEGF-2") in the gene therapy treatment of vascular diseases.

1.2 VICAL is in possession of certain gene therapy delivery methods, and is willing to grant a license to VGI for the use of those methods in conjunction with VEGF-2.

1.3 Therefore to facilitate this transaction, VGI, VICAL and HGS have agreed in an Investment Agreement dated of same date herewith (the "Investment Agreement") to undertake a series of transactions in which (1) VGI will receive a license from VICAL for the use of VICAL's current and future gene therapy delivery methods in conjunction with VEGF-2; (2) HGS will receive a license from VICAL for the use of VICAL's technology with certain genes; (3) VICAL will receive a license from HGS for the use of certain genes as gene therapy products; (4) VICAL will receive an equity interest in VGI, which VGI will have certain rights to redeem as set forth in the Investment Agreement; and (5) HGS will receive additional equity in VGI and will have returned to

it by VGI rights to certain genes licensed to VGI by HGS.

1.4 To effect this series of transactions pursuant to the terms and conditions of the Investment Agreement, this Agreement is being simultaneously executed with (1) a license agreement between VICAL and HGS; and (2) a second amendment to the license agreement between HGS and VGI; and (3) certain other agreements, all as set forth in the Investment Agreement.

2. DEFINITIONS.

2.1 "AFFILIATE" shall mean any individual or entity directly or indirectly controlling, controlled by or under common control with, the specified individual or entity. For purposes of this Agreement, the direct or indirect ownership of fifty percent (50%) or more of the outstanding voting securities of an entity, or the right to receive fifty (50%) or more of the profits or earnings of an entity shall be deemed to constitute control. Such other relationship as in fact gives such individual or entity the power or ability to control the management, business and affairs of an entity shall also constitute control.

2.2 "CONFIDENTIAL INFORMATION" shall mean, with respect to a party, all information (and all tangible and intangible embodiments thereof), which is owned or controlled by such party, is disclosed by such party to the other party pursuant to this Agreement, and (if disclosed in writing or other tangible medium) is marked or identified as confidential at the time of disclosure to the receiving party or (if otherwise disclosed) is identified as confidential at the time of disclosure to the receiving party and described as such in writing within thirty (30) days after such disclosure. The Financial Details (as hereinafter defined) shall be deemed to be marked as confidential without further action on the part of either party. Notwithstanding the foregoing, CONFIDENTIAL INFORMATION of a party shall not include information which, and only to the extent, the receiving party can establish by written documentation (a) has been publicly known prior to disclosure of such information by the disclosing party to the receiving party, (b) has become publicly known, without fault on the part of the receiving party, subsequent to disclosure of such information by the disclosing party to the receiving party, (c) has been received by the receiving party at any time from a source, other than the disclosing party, rightfully having possession of and the right to disclose such information free of confidentiality obligations, (d) has been otherwise known by the receiving party free of confidentiality obligations prior to disclosure of such information by the disclosing party to the receiving party, or (e) has been independently developed by employees or others on behalf of the receiving party without access to or use of such information disclosed by the disclosing party to the receiving party.

2.3 "CYTOFECTIN DELIVERY TECHNOLOGY" shall mean all patentable or unpatentable inventions, discoveries, technology and information of any type whatsoever, including without limitation compositions, methods, processes, confidential information, technical information, knowledge, experience and know-how, regarding the use of cytofectins in the delivery of genes into a patient for the treatment or prevention of one or more diseases or conditions; in each case which is owned by or licensed to VICAL on the Effective Date or during the term of this Agreement, all to the extent and only to the extent that VICAL now has or hereafter will have the right to grant licenses, immunities or other rights thereunder.

2.4 "DIRECT INJECTION TECHNOLOGY" shall mean all patentable or unpatentable inventions, discoveries, technology and information of any type whatsoever, including without limitation compositions, methods, processes, confidential information, technical information, knowledge, experience and know-how, regarding the direct injection of genes (including plasmid DNA-based delivery technology) into a patient to cause the IN VIVO expression of a desired protein, thereby effecting delivery of such protein to a patient for the treatment or prevention of one or more diseases or conditions; in each case which is owned by or licensed to VICAL on the Effective Date or during the term of this Agreement, all to the extent and only to the extent that VICAL now has or will have during the term of this Agreement the right to grant licenses, immunities or other rights thereunder.

2.5 "DNA PROCESS TECHNOLOGY" shall mean all patentable or unpatentable inventions, discoveries, technology and information of any type whatsoever, including without limitation compositions, methods, processes, confidential information, technical information, knowledge,

experience and know-how regarding technologies related to the manufacture and processing of plasmid DNA for human use; in each case, which is owned by or licensed to VICAL on the Effective Date or during the term of this Agreement, all to the extent and only to the extent that VICAL now has or will have during the term of this Agreement the right to grant licenses, immunities or other rights thereunder.

2.6 "FIELD" shall mean the intervention, treatment and/or prevention of a disease or disorder in humans by GENE THERAPY.

2.7 "GENE THERAPY" shall mean the treatment or prevention of a disease, or remedying a gene deficiency of humans by genetic modification of somatic cells (IN VIVO or EX VIVO) with DNA whereby an active transcription process results in the expression of a protein or oligo(poly)nucleotide encoded by said DNA in a human.

2.8 "IND" shall mean an Investigational New Drug application filed with the Food and Drug Administration in the United States, or any similar filing with any foreign regulatory authority, to commence human clinical testing of a PRODUCT in any country.

2.9 "LICENSED INTELLECTUAL PROPERTY" shall mean VICAL's rights in the VICAL PATENTS and VICAL KNOW-HOW.

2.10 "LICENSED PRODUCT(S)" means a PRODUCT for use in the FIELD, one of whose active components is the gene, a portion of the gene, or a derivative of the gene, Vascular Endothelial Growth Factor-2 ("VEGF-2"), as described and disclosed in U.S. Patent Nos. 5,935,820 and 5,932,540.

2.11 "NET SALES" shall mean, with respect to a LICENSED PRODUCT, the gross sales price invoiced by the seller (calculated on a LICENSED PRODUCT by LICENSED PRODUCT basis) to THIRD PARTIES that are not (sub)licensees (except as set forth below), less normal and customary deductions actually paid or accrued by the seller for (i) normal and customary trade, cash and quality credits, discounts, refunds or government rebates; (ii) credits for claims, allowances or returns; retroactive price reductions; chargebacks or the like; and (iii) sales taxes, duties and other governmental charges (including value added tax), but excluding what is commonly known as income taxes. NET SALES shall not include sales among the seller, its (sub)licensees and their respective AFFILIATES for resale, provided that NET SALES shall include the amounts invoiced by the seller and its AFFILIATES to THIRD PARTIES on the resale of such LICENSED PRODUCT. Sales between or among a party, its (sub)licensees and their

respective AFFILIATES shall be included within NET SALES only if such purchaser is an end-user of such LICENSED PRODUCT.

2.12 "PRODUCT" shall mean any product or part thereof, the manufacture, use or sale of which is covered in whole or in part by a VALID CLAIM.

2.13 "SPC" shall mean a right based upon an underlying patent such as a Supplementary Protection Certificate.

2.14 "THIRD PARTY" shall mean any party other than VICAL or VGI or an AFFILIATE of VICAL or VGI.

2.15 "VALID CLAIM" shall mean either (a) a claim of an issued and unexpired patent included within the VICAL PATENTS, which has not been held unenforceable, unpatentable or invalid by a court or other governmental agency of competent jurisdiction, and which has not been admitted to be invalid or unenforceable through reissue, disclaimer or otherwise, or (b) a claim in a hypothetical issued patent corresponding to a pending claim in a patent application within the VICAL PATENTS, provided that if such pending claim has not issued as a claim of an issued patent within the VICAL PATENTS, within six (6) years after the filing date from which such patent application takes priority, such pending claim shall not be a VALID CLAIM for purposes of this Agreement. In the event that a claim of an issued patent within the VICAL PATENTS is held by a court or other governmental agency of competent jurisdiction to be unenforceable, unpatentable or invalid, and such holding is reversed on appeal by a higher court or agency of competition jurisdiction, such claim shall be reinstated as a VALID CLAIM hereunder.

2.16 "VICAL IMPROVEMENTS" shall mean all patentable or unpatentable inventions, discoveries or other technology regarding VICAL TECHNOLOGY, but expressly excluding a formulation or combination of the VEGF-2 gene and the delivery vehicle therefor, made or conceived by VGI solely or

jointly with others during the term of this Agreement, and which resulted from the use of VICAL TECHNOLOGY.

2.17 "VICAL KNOW-HOW" shall mean collectively, all inventions, discoveries, data, information, methods, techniques, technology and other results regarding VICAL TECHNOLOGY, whether or not patentable, which during the term of this Agreement are owned by VICAL or to which VICAL otherwise has the right to grant licenses, and which are not generally known. All VICAL KNOW-HOW shall be CONFIDENTIAL INFORMATION of VICAL.

2.18 "VICAL LICENSED INTELLECTUAL PROPERTY" shall mean VICAL's rights in the VICAL PATENTS and VICAL KNOW-HOW.

2.19 "VICAL PATENT(S)" shall mean, collectively, (a) all patent applications filed in any country before or after the Effective Date; (b) all patents that have issued or in the future issue from any of the foregoing patent applications, including without limitation, utility and design patents and certificates of invention, further including but not limited to those patents listed in Appendix A; and (c) all continuations, continuations-in-part, divisional, additions, reissues, renewals, re-examinations or extensions, or SPCs to any such patents and patent applications; in each case which during the term of this Agreement are or become owned by VICAL or to which VICAL otherwise has, now or in the future, the right to grant licenses and which claim in whole or in part VICAL TECHNOLOGY or the use thereof in the FIELD.

2.20 "VICAL TECHNOLOGY" shall mean CYTOFECTIN DELIVERY TECHNOLOGY, DIRECT INJECTION TECHNOLOGY and DNA PROCESS TECHNOLOGY.

3. LICENSE GRANT.

3.1 Subject to the terms and conditions of this Agreement, VICAL grants to VGI an exclusive worldwide license (with the right to grant sublicenses) under VICAL LICENSED INTELLECTUAL PROPERTY to research, develop, make, have made, use, import, export, offer to sell and sell LICENSED PRODUCTS in the FIELD.

3.2 Notwithstanding anything to the contrary herein, VICAL shall own all right, title and interest in and to the VICAL IMPROVEMENTS and all intellectual property rights

therein and thereto. VGI hereby irrevocably assigns, transfers and conveys to VICAL all right, title and interest in and to the VICAL IMPROVEMENTS and all intellectual property rights therein and thereto. VGI shall take, and shall cause its AFFILIATES to take any and all actions and execute and deliver (or cause to be executed or delivered) any and all documents reasonably requested by VICAL, at VICAL's expense, in order to effect the foregoing assignment.

3.3 VICAL hereby grants VGI a non-exclusive, royalty-free, perpetual, worldwide, sublicensable license to VICAL IMPROVEMENTS and the claims of any VICAL PATENT covering such VICAL IMPROVEMENTS, but only to the extent that such claims cover VICAL IMPROVEMENTS.

3.4 No rights, other than those expressly set forth in this Agreement, are granted to VGI hereunder, and no additional rights shall be granted to VGI by implication, estoppel or otherwise.

4. PAYMENTS AND ROYALTIES.

4.1 On the Effective Date, VGI will issue to VICAL shares of VGI's Series B Preferred Stock in such amount, and subject to the terms, as described in the Investment Agreement.

4.2 Subject to Section 4.3, for each LICENSED PRODUCT, VGI shall pay to VICAL a royalty of *** of NET SALES of the LICENSED PRODUCT sold by VGI, its (sub)licensees and their respective AFFILIATES.

4.3 VGI acknowledges that the LICENSED INTELLECTUAL PROPERTY hereunder is a mix of various types of intellectual property, including patent rights and know-how. Accordingly, even in the event one or more VICAL PATENTS or other LICENSED INTELLECTUAL PROPERTY is declared void or not enforceable, or otherwise expires

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*** Confidential material redacted and separately filed with the Commission.

VGI shall continue to have royalty obligations under the terms of this Agreement; provided, however, in such case, and except as otherwise set forth below in this Section 4.3, such royalty obligations will cease in the event all information transferred hereunder is finally determined by a court of competent jurisdiction after exhaustion of all appeals to be dedicated to the public domain. Notwithstanding the foregoing provisions, however, all royalty obligations under Section 4.2, with respect to a LICENSED PRODUCT, shall terminate on a country-by-country basis and on a LICENSED PRODUCT by LICENSED PRODUCT basis on the later of (i) *** after first country-wide launch of such LICENSED PRODUCT in such country or (ii) expiration of the last to expire VICAL PATENT licensed to VGI under this Agreement which covers the making, having made, importing, exporting, offering to sell or using or selling of such LICENSED PRODUCT in such country.

4.4 The manner in which statements and remittances of royalty and other payments are handled is as set forth in Article 9 hereof.

4.5 All payments to be made hereunder shall be by wire transfer of immediately available funds to an account designated by VICAL.

5. TECHNOLOGY TRANSFER

5.1 To assist VGI in the utilization of VICAL TECHNOLOGY, VICAL scientists will meet with VGI scientists to discuss the application of VICAL TECHNOLOGY to VEGF-2 and will provide to VGI any know-how or proprietary materials necessary for VGI to use the VICAL TECHNOLOGY with respect to VEGF-2 in accordance with the license granted under Section 3.1.

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*** Confidential material redacted and separately filed with the Commission.

6. PRODUCT DEVELOPMENT

6.1 VGI shall use its commercially reasonable efforts to actively research, develop, obtain regulatory approvals and commercialize in at least one major market (U.S., Japan or the European Community) at least one LICENSED PRODUCT for at least one indication.

6.2 If the diligence requirements set forth in Paragraph 6.1 are not met, Vical shall have the right to terminate this Agreement pursuant to Paragraph 10.2. Notwithstanding the foregoing if VGI is pursuing development and commercialization of a product (a "NON-VICAL PRODUCT") for use in the FIELD, one of whose active components is VEGF-2, a portion of VEGF-2, or a derivative of VEGF-2 and which was not derived from VICAL TECHNOLOGY, VGI shall have the option, exercisable by written notice to VICAL within thirty (30) days after the date of such termination by VICAL, at its sole discretion to retain the relevant VICAL licenses under this Agreement for any or all indications where the NON-VICAL PRODUCT is applied, provided that VGI pays to VICAL the royalties set forth in Paragraph 4.2 on the NET SALES of such NON-VICAL PRODUCT for the indication or indications intended to be retained by VGI and delivers all reports described in this Agreement, regarding such NON-VICAL PRODUCT in the desired indication to the same extent it would if such NON-VICAL PRODUCT were a LICENSED PRODUCT.

6.3 During the term of this Agreement and for a period of five (5) years thereafter, VGI shall keep complete and accurate records of its activities conducted under this Agreement regarding the development and commercialization of LICENSED PRODUCTS and the results thereof. Within twenty (20) days after the end of each May and September during the term of this Agreement, VGI shall prepare and provide VICAL with a reasonably detailed written report of such activities and results, through such date.

7. CONFIDENTIALITY

7.1 During the term of this Agreement and for a period of *** following the expiration or earlier termination hereof, each party shall maintain in confidence the CONFIDENTIAL INFORMATION of the other party, and shall not disclose, use or grant the use of the CONFIDENTIAL INFORMATION of the other party except on a need-to-know basis to such party's AFFILIATES, directors, officers, employees, agents, independent contractors and such party's THIRD PARTY licensors of intellectual property rights (sub)licensed hereunder, and such party's consultants, to the extent such disclosure is reasonably necessary in connection

with such party's activities as expressly authorized by this Agreement or the Investment Agreement. To the extent that disclosure to any person is authorized by this Agreement, prior to disclosure, a party shall obtain written agreement of such person to hold in confidence and not disclose, use or grant the use of the CONFIDENTIAL INFORMATION of the other party except as expressly permitted under this Agreement. Each party shall notify the other party promptly upon discovery of any unauthorized use or disclosure of the other party's CONFIDENTIAL INFORMATION. Upon the expiration or earlier termination of this Agreement, each party shall return to the other party all tangible items regarding the CONFIDENTIAL INFORMATION of the other party and all copies thereof; PROVIDED, HOWEVER, that each party shall have the right to retain one (1) copy for its legal files for the sole purpose of determining its obligations hereunder.

7.2 No public announcement or public disclosure concerning (i) the existence or terms of this Agreement or the Investment Agreement, including without limitation, the number of shares of Series B Preferred Shares or Common Stock which is issuable upon conversion thereof, the number of Additional Common Shares or the percentage any of such represent of the outstanding equity of VGI or the terms of the royalties set forth in this Agreement (collectively, the "Financial Details") or (ii) exercise by one party of rights

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and options granted under this Agreement or the Investment Agreement, shall be made, either directly or indirectly, by any party to this Agreement without prior written notice and, except as may be legally required, or as may be legally required for a public offering of securities, or as may be required for recording purposes, without first obtaining the approval of the other party and agreement upon the nature and text of such announcement, such agreement and/or approval not to be unreasonably withheld. In complying with any legal requirement for public announcement or public disclosure, the party having the obligation to so announce or disclose shall use reasonable efforts to summarize or redact information containing the Financial Details as reasonably requested by the other party. Except as otherwise required by law, the party desiring to make any such public announcement or public disclosure shall inform the other party of the proposed announcement or disclosure at least five (5) business days prior to public release, and shall provide the other party with a written copy thereof, in order to allow such other party to comment upon such announcement or disclosure. This Section 7.2 shall not apply to any information in a public announcement or public disclosure that is information essentially identical to that contained in a previous public announcement or public disclosure agreed to pursuant to this Section 7.2.

7.3 The confidentiality obligations under Section 7.1 shall not apply to the extent that a party is required to disclose information by applicable law, regulation or order of a governmental agency or a court of competent jurisdiction; PROVIDED, HOWEVER, that (a) to the extent commercially practicable, such party shall provide written notice thereof to the other party and consult with the other party prior to such disclosure with respect thereto, (b) shall provide the other party sufficient opportunity to object to any such disclosure or to request confidential treatment thereof, and provide reasonable assistance as requested in connection therewith and (c) in the event that the disclosure is a public disclosure or public announcement, the disclosing party shall also comply with Section 7.2.

7.4 Each party hereto acknowledges that the remedy at law for breach by any party of its obligations under this Section 7 is inadequate and that each party shall be entitled to equitable remedies, including injunctive relief, in the event of a breach by the other party.

7.5 The provisions of this Section 7 are in addition to and do not supercede and are not superceded by similar provisions in any other agreements.

8. PATENT PROSECUTION AND LITIGATION.

8.1 All right, title and interest to the VICAL TECHNOLOGY and all patent rights and other intellectual property rights therein shall belong solely to VICAL. VICAL shall have the sole right and responsibility for the filing, prosecution and maintenance of patents and patent applications directed thereto.

8.2 In the event that VGI or VICAL becomes aware of actual or threatened infringement of a VICAL PATENT that claims a LICENSED PRODUCT or the use thereof, that party shall promptly notify the other party in writing. VICAL shall have the first right but not the obligation to bring, at its own expense, an infringement action against any THIRD PARTY and to use VGI's name in connection therewith. If VICAL does not commence a particular infringement action within ninety (90) days, VGI, after notifying VICAL in writing, shall be entitled to bring such infringement action, in its own name and/or in the name of VICAL, at its own expense to the extent that such party is licensed thereunder. The foregoing notwithstanding, in the event that an alleged infringer certifies pursuant to 21 U.S.C. Section 355(b)(2)(A)(iv) against an issued VICAL PATENT covering a LICENSED PRODUCT, as between VICAL AND VGI, the party receiving notice of such certification shall immediately notify the other party of such certification, and if fourteen (14) days prior to expiration of the forty five (45) day period set forth in 21 U.S.C. Section 355(c)(3)(C), VICAL fails to commence an infringement action, the party receiving notice, in its sole discretion, at its own expense and to the extent that it is licensed under the patent, shall be entitled to bring such infringement action in its own name and/or in the name of the patent owner. The party conducting an action under this Section 8.2 shall have full control over its conduct, including settlement thereof provided such settlement shall not be made without the prior written consent of the other party if it would adversely affect the patent rights of such party licensed hereunder. VICAL and VGI shall reasonably assist one another and cooperate in any such litigation at the other's request.

The party conducting the litigation shall reimburse the other party for its reasonable and actual out-of-pocket expenses incurred at the request of the party conducting the litigation for assisting in the litigation, which reimbursement shall be made within thirty (30) days of receipt by the party conducting the litigation of itemized invoices from the assisting party documenting such expenses.

8.3 Any recovery made by a party as the result of an action for patent infringement it has conducted under Section 8.2 shall be distributed as follows:

(a) The party conducting the action shall recover its actual out-of-pocket expenses, and then shall reimburse the other party for any unreimbursed actual and out-of-pocket expenses.

(b) To the extent that the recovery exceeds the total of item (a), the excess shall be kept by the party conducting the action, provided, however, that to the extent that the recovery is based on an award of lost sales/profits, VICAL shall receive a proportion of the excess recovery corresponding to the royalty percentage it would have otherwise been due on those lost sales/profits and VGI shall receive the proportion of the excess recovery corresponding to the lost sales/profits.

8.4 The parties shall periodically keep one another reasonably informed of the status of their respective activities regarding any such litigation or settlement thereof.

9. STATEMENTS AND REMITTANCES.

9.1 VGI shall keep and require its AFFILIATES and (sub)licensees to keep complete and accurate records of all sales and calculations for NET SALES of LICENSED PRODUCTS. Each party shall have the right, at its expense, through an independent certified public accounting firm of nationally recognized standing reasonably acceptable to the other party, to examine pertinent financial records during regular business hours

upon advance written notice during the life of this Agreement and for *** after its termination for the purpose of verifying and reporting to VICAL as to the computation of the payments made hereunder during the preceding *** prior to the date of such examination; provided, however, that such examination shall not take place more often than once a year; provided further that such accountant shall report only as to the accuracy of the royalty statements and payments, including the magnitude and source of any discrepancy. VGI, its AFFILIATES and (sub)licensees shall be required to maintain such sales and royalty calculation records for ***. The accountant shall execute customary confidentiality agreements prior to any examination, reasonably satisfactory in form and substance to both parties, to maintain in

confidence all information obtained during the course of any such examination, except for disclosure to the parties, as necessary for the above purpose.

9.2 Within sixty (60) days after the close of each calendar quarter, VGI shall deliver to VICAL a true accounting of amounts owing hereunder sold by it and its licensees and distributors during such calendar quarter and shall at the same time pay all amounts due.

9.3 All royalties and other payments due under this Agreement shall be payable in U.S. dollars.

9.4 Royalties payable on sales in countries other than the United States shall be calculated by multiplying the appropriate royalty rate times the sales in each currency in which they are made and converting the resulting amount into United States dollars, at the rates of exchange as reported in THE WALL STREET JOURNAL as published under the caption "Currency Trading"), on the last business day in New York, New York of each royalty period. If THE WALL STREET JOURNAL ceases to be published, then the rate of exchange to be used shall be that reported in such other business publication of national circulation in the United States as all parties reasonably agree. Such payments shall be without deduction of exchange, collection, or other charges. If, due to restrictions or prohibitions imposed

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*** Confidential material redacted and separately filed with the Commission.

by a national or international authority, payments cannot be made as aforesaid, the parties shall consult with a view to finding a prompt and acceptable solution, and the parties will deal with such monies as the other party may lawfully direct at no additional out-of-pocket expense to the party owed the royalty. Notwithstanding the foregoing, if royalties cannot be remitted for any reason within six (6) months after the end of the calendar quarter during which they are earned, then the party owing the royalty shall be obligated to deposit the royalties in a bank account in the country of sale in the name of the other party. Each party shall deduct any taxes which the party is obligated to pay and/or withhold in a country based on royalties due to the other based on sales in such country from royalty payments due for such country under this Agreement and pay them to the proper authorities as required by applicable laws. Each party shall maintain official receipts of payment of any such taxes and forward these receipts to the other within sixty (60) days.

10. TERM AND TERMINATION.

10.1 This Agreement shall come into effect as of the Effective Date, and unless earlier terminated as provided in this Article 10, shall remain in full force and effect in a country-by-country basis until the expiration of VGI's royalty obligations for such LICENSED PRODUCT in such country.

10.2 A party shall have the right to terminate this Agreement in its entirety (a) upon the breach by the other party of such other party's obligations to pay any amounts owing hereunder, if such breach is not cured within thirty (30) days after receipt of written notice from such party thereof, or (b) upon the breach by the other party of such other party's obligations (other than to pay any amounts owing) hereunder, if such breach is not cured within sixty (60) days after receipt of written notice from such party thereof.

10.3 Notwithstanding termination of this Agreement, the rights and obligations of the parties under Sections 3.2 and 3.3 and Articles 7, 9, 10, 11, 12 and 15 shall survive such

termination, as well as any provision not specified in this paragraph which is clearly meant to survive termination of this Agreement.

10.4 Termination of the Agreement in accordance with the provisions hereof shall not limit remedies that may be otherwise available in law or equity.

11. WARRANTIES AND REPRESENTATIONS.

11.1 Each of VGI and VICAL hereby represents, warrants and covenants to the other, as of the date of this Agreement, as follows:

(a) it is a corporation duly organized and validity existing under the laws of the state of its incorporation;

(b) the execution, delivery and performance of this Agreement by such party has been duly authorized by all requisite corporate action;

(c) it has the power and authority to execute and deliver this Agreement and to perform its obligations hereunder, including, without limitation, in the case of VICAL, the right, power and authority to grant the licenses under Article 3;

(d) the execution, delivery and performance by such party of this Agreement and its compliance with the terms and provisions hereof to such party's best knowledge does not conflict with or result in a breach of any of the terms and provisions of or constitute a default under (i) a loan agreement, guaranty, financing agreement, agreement affecting a product or other agreement or instrument binding or affecting it or its property; (ii) the provisions of its charter documents or bylaws; or (iii) any order, writ, injunction or decree of any court or governmental authority entered against it or by which any of its property is bound; and

(e) this Agreement constitutes such party's legal, valid and binding obligation enforceable against it in accordance with its terms subject, as to enforcement, to bankruptcy, insolvency, reorganization and other laws of general applicability

relating to or affecting creditors' rights and to the availability of particular remedies under general equity principles.

11.2 NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A WARRANTY THAT VICAL PATENTS ARE VALID OR ENFORCEABLE OR THAT THEIR EXERCISE OR THE EXERCISE OF VICAL TECHNOLOGY DOES NOT INFRINGE ANY PATENT RIGHTS OF THIRD PARTIES. A HOLDING OF INVALIDITY OR UNENFORCEABILITY OF ANY SUCH PATENT, FROM WHICH NO FURTHER APPEAL IS OR CAN BE TAKEN, SHALL NOT AFFECT ANY OBLIGATION HEREUNDER, BUT SHALL ONLY ELIMINATE ROYALTIES OTHERWISE DUE UNDER SUCH PATENT FROM THE DATE SUCH HOLDING BECOMES FINAL.

11.3 EXCEPT AS OTHERWISE EXPRESSLY SET FORTH HEREIN VGI AND VICAL MAKE NO REPRESENTATIONS OR EXTEND ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT.

11.4 Each party shall use any materials provided by the other party under this Agreement in compliance with all applicable laws and regulations.

12. INDEMNIFICATION

12.1 VGI shall defend, indemnify and hold harmless VICAL, its AFFILIATES licensors of VICAL and each of their respective directors, officers, shareholders, agents and employees, from and against any and all liability, loss, damages and expenses (including reasonable attorneys' fees) as the result of claims, demands, actions or proceedings by any THIRD PARTY which are made or instituted against any of them arising out of the development, manufacture, possession, distribution, use, testing, sale or other disposition of LICENSED PRODUCT by or through VGI, its AFFILIATES or any THIRD PARTY granted rights by VGI under this Agreement. VGI's obligation to defend, indemnify and hold harmless shall include claims, demands, actions or proceedings, whether for money

damages or equitable relief by reason of alleged personal injury (including death) to any person or alleged property damage, provided, however, the indemnity shall not extend to any claims against an indemnified party which result from the gross negligence or willful misconduct of an indemnified party. VGI shall have the exclusive right to control the defense of any action which is to be indemnified in whole by VGI hereunder, including the right to select counsel reasonably acceptable to VICAL to defend VICAL and the indemnified parties hereunder and to settle any claim, demand, action or proceeding, provided that, without the prior written consent of VICAL (which shall not be unreasonably withheld or delayed), VGI shall not agree to settle any claim, demand, action or proceeding against VICAL

to the extent such claim has a material adverse effect on VICAL. The provisions of this paragraph shall survive and remain in full force and effect after any termination, expiration or cancellation of this Agreement and VGI's obligation hereunder shall apply whether or not such claims are rightfully brought. VGI shall require each (sub)licensee hereunder to agree to indemnify VICAL in a manner consistent with this Section 12.1.

12.2 If VICAL intends to claim indemnification under this Article 12, VICAL shall promptly notify VGI of any claim, demand, action or proceeding for which VICAL intends to claim such indemnification, and VGI, after it determines that indemnification is required of it, shall assume the defense thereof with counsel selected by VGI and reasonably acceptable to the other party; provided, however, that VICAL shall have the right to retain its own counsel, with the fees and expenses to be paid by VGI if VGI does not assume the defense; or, if representation of VICAL by the counsel retained by VGI would be inappropriate due to actual or potential conflicts of interest between VICAL and any other party represented by such counsel in such proceedings. The indemnity agreement in this Article 12 shall not apply to amounts paid in settlement of any claim, demand, action or proceeding if such settlement is effected without the consent of VGI, which consent shall not be unreasonably withheld or delayed. The failure to deliver notice to VGI within a reasonable time after the commencement of any such action, if prejudicial to its ability to defend such action, shall relieve VGI of any liability to VICAL under this Article 12, but failure to deliver notice to VGI will not relieve it of any liability that it may have to VICAL otherwise than under this Article 12. VICAL under this

Article 12, its employees and agents, shall reasonably cooperate with VGI and its legal representatives in the investigations of any claim, demand, action or proceeding covered by this indemnification. In the event that each party claims indemnity from the other and one party is finally held liable to indemnify the other, VGI shall additionally be liable to pay the reasonable legal costs and attorneys' fees incurred by VICAL in establishing its claim for indemnity.

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14. FORCE MAJEURE

14.1 If the performance by a party of any obligation under this Agreement (other than an obligation for a payment of money), is prevented, restricted, interfered with or delayed by reason of any reasonable unforeseeable cause beyond the reasonable control of the party liable to perform, the party so affected shall, upon giving written notice to the other party, be excused from such performance to the extent of such prevention, restriction, interference or delay, provided that the affected party shall use its commercially reasonable efforts to avoid or remove such causes of non-performance and shall continue performance with the utmost dispatch whenever such causes are removed. When such circumstances arise, the parties shall discuss what, if any, modification of the terms of this Agreement may be required in order to arrive at an equitable solution.

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*** Confidential material redacted and separately filed with the Commission.

15. DISPUTE RESOLUTION

15.1 This Agreement shall be construed and enforced in accordance with the laws of the State of Delaware (without reference to the conflicts of law principles thereof).

15.2 In the event of any controversy, dispute or claim arising out of or relating to any provision of this Agreement or the breach thereof, the parties shall use good faith efforts to settle such controversy, dispute or claim amicably between themselves.

15.3 Should the parties fail to reach mutually acceptable settlement of any controversy, dispute or claim which may arise out of or in connection with this Agreement, or the breach, termination or validity thereof (other than with respect to patent validity) shall be settled by final and binding arbitration pursuant to the Commercial Arbitration Rules of

the American Arbitration Association ("AAA") as herein provided.

(a) The Arbitration Tribunal shall consist of three arbitrators. Each party shall nominate in the request for arbitration and the answer thereto one arbitrator and the two arbitrators so named will then jointly appoint the third arbitrator as chairman of the Arbitration Tribunal. If one party fails to nominate its arbitrator or, if the parties' arbitrators cannot agree on the person to be named as chairman within sixty (60) days, the necessary appointments shall be made under the rules of the AAA.

(b) The place of arbitration shall be in Chicago, Illinois and the arbitration proceedings shall be held in English. The procedural law of the State of Illinois shall apply where the AAA Rules are silent.

(c) The award of the Arbitration Tribunal shall be final and judgment upon such an award may be entered in any competent court or application may be made to any competent court for judicial acceptance of such an award and order of enforcement. Notwithstanding the foregoing, nothing contained herein shall prevent either party from seeking interim relief from a court of competent jurisdiction pending the establishment of or a decision by a panel of arbitrators.

16. ENTIRE AGREEMENT.

16.1 This Agreement, and the Appendices hereto, entered into as of the date written above together with the Investment Agreement and each of the documents referenced in such Investment Agreement, constitute the entire agreement between the parties relating to the subject matter hereof and supersedes all previous writings and understandings. No terms or provisions of this Agreement shall be varied or modified by any prior or subsequent statement, conduct or act of either of the parties, except that the parties may amend this Agreement by written instruments specifically referring to and executed in the same manner as this Agreement.

17. NOTICES.

17.1 Any notice required or permitted under this Agreement shall be hand-delivered or sent by express delivery service or certified or registered mail, postage prepaid, or by fax with written confirmation by mail, to the following addresses of the parties:

VASCULAR GENETICS INC.
Suite 201
4364 S. Alston Avenue
Durham, North Carolina 27713
Attn: John W. Cumming
Fax: (843) 342-3701

copy to:

Long Aldridge & Norman LLP
One Peachtree Center, Suite 5300
303 Peachtree Street, N.W.
Atlanta, GA 30308
Attn: Mark S. Lange, Esq.
Fax: (404) 527-3808

VICAL INCORPORATED
9373 Towne Center Drive
San Diego, California 92121
Attn: President
Fax: (858) 646-1150

copy to:

Pillsbury Madison & Sutro LLP
50 Fremont Street
San Francisco, California 94105
Attn: Thomas E. Sparks, Jr., Esq.
Fax: (415) 983-1200

17.2 Any notice required or permitted to be given concerning this Agreement shall be effective upon receipt by the party to whom it is addressed.

18. ASSIGNMENT AND CHANGE OF CONTROL.

18.1 This Agreement and the licenses herein granted shall be binding upon and inure to the benefit of the parties and their respective permitted assignees and successors in interest. Neither this Agreement nor any interest hereunder shall be assignable by a party without the prior written consent of the other party and any attempted assignment contrary to this Section 18.1 shall be void and without force and effect. Notwithstanding the foregoing; a party may assign this Agreement and all of its rights and obligations hereunder to any AFFILIATE or to any THIRD PARTY in connection with the transfer or sale of all or substantially all of its business or all or substantially all of its assets to which this Agreement relates, or in the event of its merger, consolidation, change in control or similar transaction, without obtaining the consent of the other party, provided that the assigning party remains liable under this Agreement and that the THIRD PARTY assignee or surviving entity assumes in writing all of its obligations under this Agreement.

19. COUNTERPARTS.

19.1 This Agreement may be executed in any number of counterparts, and each such counterpart shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement.

20. WAIVER.

20.1 Any delay or failure in enforcing a party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such party's rights to the future enforcement of its rights under this Agreement, nor operate to bar the exercise or enforcement thereof at any time or times thereafter, excepting only as to an express written and signed waiver as to a particular matter for a particular period of time.

20.2 Notwithstanding the foregoing, in the event VGI challenges whether any payments contemplated hereunder (including, without limitation royalties or milestones) are due, it shall have the right, but not the obligation, to make such payments under protest (reserving all rights hereunder) pending resolution of such dispute.

21. INDEPENDENT RELATIONSHIP.

21.1 Nothing herein contained shall be deemed to create an employment, agency, joint venture or partnership relationship between the parties hereto or any of their agents or employees, or any other legal arrangement that would impose liability upon one party for the act or failure to act of the other party. No party shall have any power to enter into any contracts or commitments or to incur any liabilities in the name of, or on behalf of, the other party, or to bind the other party in any respect whatsoever.

22. FURTHER ACTIONS.

22.1 Each party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

IN WITNESS WHEREOF, the parties, through their authorized officers, have executed this Agreement as of the Effective Date.

VICAL INCORPORATED

By: /s/ Alain B. Shreiber, M.D.

Alain B. Schreiber, M.D.
President and Chief Executive Officer

VASCULAR GENETICS INC.

By: /s/ John W. Cumming

John W. Cumming
President

APPENDIX A ***

*** Confidential material redacted and separately filed with the Commission.

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THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM THE BALANCE SHEETS AND STATEMENTS OF OPERATIONS OF THE COMPANY'S FORM 10-Q FOR THE THREE MONTH PERIOD ENDED MARCH 31, 2000 AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS.
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