AVI BIOPHARMA INC
Form S-3/A
June 12, 2002

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SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

AMENDMENT NO. 2

TO REGISTRATION STATEMENT
ON

FORM S-3

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

AVI BIOPHARMA, INC.

(Exact name of registrant as specified in its charter)

OREGON	**93-0797222**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

ONE S.W. COLUMBIA, SUITE 1105, PORTLAND, OR 97258
(503) 227-0554

(Address, including zip code, and telephone number, including area code of registrant's principal executive offices)

DENIS R. BURGER, PH.D.
CHIEF EXECUTIVE OFFICER
AVI BIOPHARMA, INC.
ONE S.W. COLUMBIA, SUITE 1105, PORTLAND, OR 97258
(503) 227-0554

(Name, address, including zip code, and telephone number, including area code of agent for service)

COPY TO:

ROBERT A. STOUT, ESQ.
HURLEY, LYNCH & RE, P.C.
747 SW INDUSTRIAL WAY, BEND, OR 97702

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC:
AS SOON AS PRACTICABLE AFTER THE EFFECTIVE DATE OF THIS REGISTRATION STATEMENT.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

/ /

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest investment plans, check the following box.

/x/

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

/ /

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

/ / _____

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

/ / _____

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

/ / _____

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be Registered	Proposed maximum offering price per share[3]	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, $.0001 par value[1]	**4,760,564**	**$9.24**	**$44,312,961**	**$11,078.24**
Common Stock, $.0001 par value[2]	**100,000**	**7.465**	**870,061**	**$80.05**
TOTAL	**4,860,564**	**$7.465-$9.24**	**$45,183,022**	**$11,158.29**

(1) Includes 3,000,000 shares of our Common Stock issuable under a warrant held by Medtronic International, Ltd. (formerly Medtronic Asset Management, Inc.) and 352,113 shares of our Common Stock issuable under our Investment Agreement with Medtronic International, Ltd.

(2) Includes the additional registration by this amendment of 100,000 shares of our Common Stock being issued under a strategic relationship with Thomas Jefferson University and 16,552 shares issued to Boston Healthcare Associates, Inc.

(3) The offering price is estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) using the average of the high and low price reported by the Nasdaq National Market for the Common Stock on August 22, 2001 which was approximately $9.24 and was $7.465 on April 18, 2002. Fee originally was calculated on 4,795,775 shares at $9.24 per share and 116,552 shares at $7.465 per share, with the difference reflecting a reduction in the number of shares being registered in this registration.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

SELLING SHAREHOLDERS'
PROSPECTUS

AVI BIOPHARMA, INC.
4,860,564 COMMON SHARES
NASDAQ NATIONAL MARKET
AVII

THIS INVESTMENT INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD PURCHASE SHARES ONLY IF YOU CAN AFFORD A COMPLETE LOSS OF YOUR INVESTMENT. SEE RISK FACTORS BEGINNING ON PAGE 2.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED THE COMMON SHARES, OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

This is an offering of Common Shares by existing shareholders of AVI BioPharma, Inc. or by pledgees, donees, transferees, or other successors in interest that receive such Common Shares as a gift, distribution, or other non-sale related transfer. The selling shareholders will receive all of the proceeds from the sale of the Common Shares, less any commissions or discounts paid to brokers or other agents. We will not receive any of the proceeds from the sale of the Common Shares.

The selling shareholders may offer and sell the Common Shares on the Nasdaq National Market at prevailing market prices, or in privately negotiated transactions at prices other than the market price. On June 6, 2002, the closing sale price for our Common Shares on the Nasdaq National Market was $3.66.

The Common Shares were or will be obtained by the selling shareholders in transactions that were exempt from the registration requirements of the Securities Act of 1933, as amended, and represent approximately 18.65% of the Company's outstanding Common Stock.

June 12, 2002

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INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents that we filed with the Securities and Exchange Commission are incorporated by reference in this Prospectus:

(1) our Annual Report on Form 10-K for the year ended December 31, 2001, which we refer to in the rest of this document as our Annual Report;

(2) our definitive proxy statement for our 2002 Annual Meeting of Shareholders filed April 11, 2002, which we refer to in the rest of this document as our Proxy Statement;

(3) our report on Form 8-K filed on April 2, 2002 and relating to an event on March 25, 2002;

(4) our Amended Report on Form 10-Q filed April 23, 2002 for the quarter ended June 30, 2001;

(5) our report on Form 10-Q filed May 14, 2002 for the quarter ended March 31, 2002; and

(6) our report on Form 8-K filed on May 22, 2002 and relating to events on May 15, 2002, as amended by a Form 8-K filed on May 31, 2002 and June 10, 2002.

In addition, all documents which we file with the Securities and Exchange Commission ("Commission") pursuant to Sections 13, 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), after the date of the Registration Statement and before termination of the offering of Common Shares, including all annual reports on Form 10-K, and all filings on Forms 10-Q and 8-K, will be deemed to be incorporated by reference in this Prospectus and to be a part of this Prospectus from the date those documents are filed. Any statement contained in a document which is incorporated, or deemed to be incorporated, by reference into this Prospectus, shall be considered modified or superseded for purposes of this Prospectus to the extent that a statement contained in this Prospectus or in any other subsequently filed document which also is, or is deemed to be, incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Prospectus.

You may request a copy of any document incorporated by reference in this Prospectus at no cost. To receive a copy, write or call us at AVI BioPharma, Inc., One S.W. Columbia, Suite 1105, Portland, Oregon 97258, Attention: Mr. Alan P. Timmins (503) 227-0554.

We are subject to the informational requirements of the Exchange Act and file reports and other information with the Commission. Reports and other information which we file with the Commission, including the Registration Statement on Form S-3 of which this Prospectus is a part, may be inspected and copied at the public reference facilities of the Commission at Judiciary Plaza, 450 Fifth Street, N.W., Room 1024, Washington, D.C. 20549, at prescribed rates. The Commission's telephone number is 1-800-SEC-0330. These materials may be obtained electronically by visiting the Commission's web site on the Internet at http://www.sec.gov. Our Common Stock is listed on the Nasdaq National Market. Reports, proxy statements and other Company materials also can be inspected at 1735 K Street, N.W., Washington, D.C. 20006-1506.

SUMMARY

MANY OF THE MATTERS SET FORTH IN THIS PROSPECTUS CONTAIN FORWARD-LOOKING STATEMENTS THAT ARE SUBJECT TO RISKS AND UNCERTAINTIES THAT COULD CAUSE ACTUAL RESULTS TO DIFFER MATERIALLY FROM THOSE

SET FORTH HEREIN. WE REFER YOU TO CAUTIONARY INFORMATION CONTAINED ELSEWHERE HEREIN AND IN OTHER DOCUMENTS WE FILE WITH THE SECURITIES AND EXCHANGE COMMISSION FROM TIME TO TIME.

OUR COMPANY

BUSINESS

We are a biopharmaceutical company developing therapeutic products based on our two distinct core technologies, our NEUGENE antisense and Avicine cancer vaccine. Our principal products when developed, will target life-threatening diseases, with initial applications in cardiovascular disease, colorectal cancer, pancreatic cancer, polycystic kidney disease, and drug metabolism.

Currently approved drugs or other therapies often prove to be ineffective or produce undesirable side effects. Our pre-clinical and clinical studies indicate that our two core technologies may produce drugs that offer more effective treatment options and produce significantly fewer side effects than currently approved products. Our technologies are protected by a strong patent estate including 51 issued patents and 99 applications pending. Each of our lead product candidates, Resten-NG(TM) and Avicine, will address a large market estimated to exceed $1 billion worldwide.

Bringing a drug candidate to market involves significant expenditures and time due to the extensive controlled animal and human clinical trials involved and the process to receive United States Federal Drug Administration, or FDA, approval to market the product following successful clinical trials. The timeframe can be up to 15 years and cost up to $500 million. Only a small percentage of drug candidates become successful commercial products. Our experience and limited resources enable us to initiate drug discovery and development and to move drug candidates through pre-clinical development and into Phase I and II human clinical trials. Our near-term strategy is to co-develop products with strategic partners or to license the marketing rights for our products to pharmaceutical partners after we complete one or more Phase II clinical trials. In this manner, the extensive costs associated with late-stage clinical development and marketing will be shared with, or the responsibility of, our strategic partners. To continue such discovery and development, we will need to raise additional capital from time to time and/or generate royalty or other income from our drug candidates. With additional resources we may consider assuming greater responsibility for the late-stage clinical development and marketing opportunities of future product candidates. As outlined under "Risk Factors," there are significant risks associated with our business and an investment in our Company.

Our executive offices are located at One SW Columbia, Suite 1105, Portland, Oregon 97258, and we can be reached at (503) 227-0554.

RISK FACTORS

AN INVESTMENT IN OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD CAREFULLY CONSIDER THE SPECIFIC FACTORS LISTED BELOW, TOGETHER WITH THE CAUTIONARY STATEMENT THAT FOLLOWS THIS SECTION AND THE OTHER INFORMATION INCLUDED IN THIS PROSPECTUS, BEFORE PURCHASING SHARES IN THIS OFFERING. If the possibilities described as risks below actually occur, our operating results and financial condition would likely suffer, and the trading price of our Common Stock, may fall, causing you to lose some or all of your investment in the shares we are offering.

RISKS RELATING TO OUR BUSINESS

Our products are in an early stage of development and may not be determined to be safe or effective.

We are only in the early stages of clinical development with our NEUGENE antisense pharmaceutical products. We have devoted almost all of our time to research and development of our technology and products, protecting our proprietary rights and establishing strategic alliances. Our proposed products are in the pre-clinical or clinical stages of development and will require significant

further research, development, clinical testing and regulatory clearances. We have no products available for sale and we do not expect to have any products available for sale for several years. Our proposed products are subject to development risks. These risks include the possibilities that any of the products could be found to be ineffective or toxic, or could fail to receive necessary regulatory clearances. Although we have obtained favorable results in Phase II trials using Avicine to treat colorectal cancer patients, we may not obtain similar or more favorable results in the current Phase III clinical trial. We have not received any significant revenues from the sale of products and we may not successfully develop marketable products that will increase sales and, given adequate margins, make us profitable. Third parties may develop superior or equivalent, but less expensive, products.

We have incurred net losses since our inception, and we may not achieve or sustain profitability.

We incurred a net operating loss of $9.2 million in 2000 and of $26.9 million in2001, including in 2001 a $12.5 million one time, non-cash write-down of investment securities in accordance with SEC accounting rules. "Net operating loss" represents the amount by which our expenses, other than interest expense, exceed revenues. As of December 31, 2001, our accumulated deficit was $87.2 million. Our losses have resulted principally from expenses incurred in research and development of our technology and products and from selling, general and administrative expenses that we have incurred while building our business infrastructure. We expect to continue to incur significant operating losses in the future as we continue our research and development efforts and seek to obtain regulatory approval of our products. Our ability to achieve profitability depends on our ability to complete development of our products, obtain regulatory approvals and market our products. It is uncertain when, if ever, we will become profitable.

If we fail to attract significant additional capital, we may be unable to continue to successfully develop our products.

Since we began operations, we have obtained operating funds primarily by selling shares of our company's Common Stock. In March 2002, we raised $23 million by issuing common stock and warrants. Based on our current plans, we believe that current cash balances will be sufficient to meet our operating needs for at least the next 24 months. Furthermore, the actual amount of funds that we will need will be determined by many factors, some of which are beyond our control. These factors include the success of our research and development efforts, the status of our pre-clinical and clinical testing, costs relating to securing regulatory approvals and the costs and timing of obtaining new patent rights, regulatory changes, competition and technological developments in the market. We may need funds sooner than currently anticipated.

We anticipate that we may need to obtain additional funds during or at the end of this 24-month period. If necessary, potential sources of additional funding include strategic relationships, public or private sales of shares of our common stock or debt or other arrangements. We do not have any committed sources of additional financing at this time. We may not obtain additional funding when we need it on terms that will be acceptable to us or at all. If we raise funds by selling additional shares of our common stock or securities convertible into our common stock, the ownership interest of our existing shareholders will be diluted. If we are unable to obtain financing when needed, our business and future prospects would be materially adversely affected.

If we fail to receive necessary regulatory approvals, we will be unable to commercialize our products.

All of our products are subject to extensive regulation by the FDA and by comparable agencies in other countries. The FDA and comparable agencies require new pharmaceutical products to undergo lengthy and detailed clinical testing procedures and other costly and time-consuming compliance procedures. Avicine has completed three Phase I and two Phase II studies and just started a Phase III trial. Our first NEUGENE Antisense drug, Resten-NG, completed Phase I trials in late 2001 and is now in Phase II trials. We initiated two additional Phase I/II studies in 2001 for cancer and polycystic

kidney disease and commenced a Phase I trial on clinical metabolism. Except for clinical trials underway or ready to start, we may not initiate additional trials when predicted or at all, or complete our clinical trials that are started or in a timely fashion. We do not know when or if we will be able to submit our products for regulatory review. Even if we submit a new drug application, there may be delays in obtaining regulatory approvals, if we obtain them at all. Sales of our products outside the United States will also be subject to regulatory requirements governing clinical trials and product approval. These requirements vary from country to country and could delay introduction of our products in those countries. We cannot assure you that any of our products will receive marketing approval from the FDA or comparable foreign agencies.

We may fail to compete effectively, particularly against larger, more established pharmaceutical companies, causing our business to suffer.

The biotechnology industry is highly competitive. We compete with companies in the United States and abroad that are engaged in the development of pharmaceutical technologies and products. They include: biotechnology, pharmaceutical, chemical and other companies;

academic and scientific institutions; governmental agencies; and public and private research organizations.

Many of these companies and many of our other competitors have much greater financial and technical resources and production and marketing capabilities than we do. Our industry is characterized by extensive research and development and rapid technological progress. Competitors may successfully develop and market superior or less expensive products which render our products less valuable or unmarketable.

We have limited operating experience.

We have engaged solely in the development of pharmaceutical technology. Although some of our management have experience in biotechnology company operations, we have limited experience in manufacturing or selling pharmaceutical products. We also have only limited experience in negotiating and maintaining strategic relationships, and in conducting clinical trials and other later-stage phases of the regulatory approval process. We may not successfully engage in some or all of these activities.

We have limited manufacturing capability.

While we believe that we can produce materials for clinical trials and produce products for human use at our recently completed GMP manufacturing facility, we may need to, depending on demand, expand our commercial manufacturing capabilities for products in the future if we elect not to or cannot contract with others to manufacture our products. This expansion may occur in stages, each of which would require regulatory approval, and product demand could at times exceed supply capacity. We have not selected a site for any expanded facilities and do not know what the construction cost will be for such facilities and whether we will have the financing needed for such construction. We do not know if or when the FDA will determine that such facilities comply with Good Manufacturing Practices. The projected location and construction of any facilities will depend on regulatory approvals, product development, pharmaceutical partners and capital resources, among other factors. We have not obtained regulatory approvals for any productions facilities for our products, nor can we assure investors that we will be able to do so.

If we lose key personnel or are unable to attract and retain additional, highly skilled personnel required for our activities, our business will suffer.

Our success will depend to a large extent on the abilities and continued service of several key employees, including Drs. Denis Burger, Patrick Iversen and Dwight Weller. We maintain key man life insurance in the amount of $1,000,000 for Dr. Burger and $500,000 for each of Drs. Iversen and Weller. The loss of any of these key employees could significantly delay the achievement of our goals.

Competition for qualified personnel in our industry is intense, and our success will depend on our ability to attract and retain highly skilled personnel. To date, we have been successful in attracting and retaining key personnel. We are not aware of any key personnel who plan to retire or otherwise leave the Company in the near future.

Asserting, defending and maintaining our intellectual property rights could be difficult and costly, and our failure to do so will harm our ability to compete and the results of our operations.

Our success will depend on our existing patents and licenses, and our ability to obtain additional patents in the future. We have been issued 51 patents and have filed an additional 99 patent applications in the United States, Canada, Europe, Australia and Japan. We license the composition, manufacturing and use of Avicine in all fields, except fertility regulation from The Ohio State University, and we license other patents for certain complementary technologies from others.

Some of our patents on core technologies expire as early as 2010, including for NEUGENES; however, based on patented improvements and additions to such core patents, we believe our patent protection for those products and other products would extend beyond 2020.

We cannot assure investors that our pending patent applications will result in patents being issued in the United States or foreign countries. In addition, the patents which have been or will be issued may not afford meaningful protection for our technology and products. Competitors may develop products similar to ours which do not conflict with our patents. Others may challenge our patents and, as a result, our patents could be narrowed or invalidated. The patent position of biotechnology firms generally is highly uncertain, involves complex legal and factual questions, and has recently been the subject of much litigation. No consistent policy has emerged from the United States Patent and Trademark Office, or USPTO, or the courts regarding the breadth of claims allowed or the degree of protection afforded under biotechnology patents. In addition, there is a substantial backlog of biotechnology patent applications at the USPTOs and the approval or rejection of patents may take several years.

Our success will also depend partly on our ability to operate without infringing upon the proprietary rights of others, as well as our ability to prevent others from infringing on our proprietary rights. We may be required at times to take legal action to protect our proprietary rights and, despite our best efforts, we may be sued for infringing on the patent rights of others. We have not received any communications or other indications from owners of related patents or others that such persons believe our products or technology may infringe their patents. Patent litigation is costly and, even if we prevail, the cost of such litigation could adversely affect our financial condition. If we do not prevail, in addition to any damages we might have to pay, we could be required to stop the infringing activity or obtain a license. Any required license may not be available to us on acceptable terms, or at all. If we fail to obtain a license, our business might be materially adversely affected.

To help protect our proprietary rights in unpatented trade secrets, we require our employees, consultants and advisors to execute confidentiality agreements. However, such agreements may not provide us with adequate protection if confidential information is used or disclosed improperly. In addition, in some situations, these agreements may conflict with, or be subject to, the rights of third parties with whom our employees, consultants or advisors have prior employment or consulting relationships. Further, others may independently develop substantially equivalent proprietary information and techniques, or otherwise gain access to our trade secrets.

If our strategic relationships are unsuccessful, our business could be harmed.

Our strategic relationships with SuperGen, Inc., Medtronic, Inc. ("Medtronic"), Exelixis, Inc. and others are important to our success. The development, improvement and marketing of many of our key therapeutic products are or will be dependent on the efforts of our strategic partners. For example,

under the SuperGen, Inc. relationship, we may fail to achieve clinical and sales milestones; Avicine may fail to achieve regulatory approval; Avicine may not be commercially successful; SuperGen, Inc. may fail to perform its obligations under our agreements, such as failing to devote sufficient resources to marketing Avicine; and our agreements with SuperGen, Inc. may be terminated against our will. Similarly, under the Medtronic relationship, we are dependent on Medtronic to achieve clinical and other milestones, to obtain regulatory approval and to commercially exploit our antisense compounds, including Resten-NG , in certain treatments of vascular disease; which products may not be developed or, if developed may not be commercially successful; if Medtronic fails to perform its obligations under our agreements, such as failing to devote sufficient resources to development or to market such products. We may also need additional future funding, including for operations, product development and our other activities. We may receive additional funding from our strategic partners, including SuperGen, Inc. and Medtronic, under existing agreements. We may not receive any additional payments from SuperGen, Inc. or Medtronic and those relationships may not be commercially successful. The transactions contemplated by our agreements with strategic partners, including the equity purchases and cash payments, are subject to numerous risks and conditions. The occurrence of any of these events could severely harm our business.

Our near-term strategy is to co-develop products with strategic partners or to license the marketing rights for our products to pharmaceutical partners after we complete one or more Phase II clinical trials. In this manner, the extensive costs associated with late-stage clinical development and marketing will be shared with, or the responsibility of, our strategic partners.

To fully realize the potential of our products, including development, production and marketing, we may need to establish other strategic relationships.

We have limited sales capability and may not be able to successfully commercialize our products.

We have been engaged solely in the development of pharmaceutical technology. Although some of our management have experience in biotechnology company operations, we have limited experience in manufacturing or selling pharmaceutical products. We also have only limited experience in negotiating and maintaining strategic relationships, and in conducting clinical trials and other later-stage phases of the regulatory approval process. To the extent we rely on strategic partners to fully commercialize our products, we will be dependent on their efforts. We may not successfully engage in any of these activities.

We may be subject to product liability lawsuits and our insurance may not be adequate to cover damages.

We believe we carry adequate insurance for the product development research we currently conduct. In the future, when we have products available for commercial sale and use, the use of our products will expose us to the risk of product liability claims. Although we intend to obtain product liability insurance coverage, product liability insurance may not continue to be available to us on acceptable terms and our coverage may not be sufficient to cover all claims against us. A product liability claim, even one without merit or for which we have substantial coverage, could result in significant legal defense costs, thereby increasing our expenses, lowering our earnings and, depending on revenues, potentially

resulting in additional losses.

Continuing efforts of government and third party payers to contain or reduce the costs of health care may adversely affect our revenues and future profitability.

In addition to obtaining regulatory approval, the successful commercialization of our products will depend on our ability to obtain reimbursement for the cost of the product and treatment. Government authorities, private health insurers and other organizations, such as health maintenance organizations are increasingly challenging the prices charged for medical products and services. Also, the trend toward managed health care in the United States, the growth of healthcare organizations such as

HMOs, and legislative proposals to reform healthcare and government insurance programs could significantly influence the purchase of healthcare services and products, resulting in lower prices and reducing demand for our products. The cost containment measures that healthcare providers are instituting and any healthcare reform could affect our ability to sell our products and may have a material adverse effect on our operations. Reimbursement in the United States or foreign countries may not be available for any of our products, any reimbursement granted may be reduced or discontinued, and limits on reimbursement available from third-party payors may reduce the demand for, or the price of, our products. The lack or inadequacy of third-party reimbursements for our products would have a material adverse effect on our operations. Additional legislation or regulation relating to the healthcare industry or third-party coverage and reimbursement may be enacted in the future that adversely affects our products and our business.

If we fail to establish strategic relationships with larger pharmaceutical partners, our business may suffer.

We do not intend to conduct late-stage (Phase III) human clinical trials ourselves. We anticipate entering into relationships with larger pharmaceutical companies to conduct later pharmaceutical trials and to market our products and we also plan to continue to use contract manufacturing for late stage clinical and commercial quantities of our products. We may be unable to enter into corporate partnerships which could impede our ability to bring our products to market**.** Any such corporate partnerships, if entered, may not be on favorable terms and may not result in the successful development or marketing of our products. If we are unsuccessful in establishing advantageous clinical testing, manufacturing and marketing relationships, we are not likely to generate significant revenues and become profitable.

We use hazardous substances in our research activities.

We use organic and inorganic solvents and reagents in our clinical development that are customarily used in pharmaceutical development and synthesis. Some of those solvents and reagents we use, such as methylene chloride, isopropyl alcohol, ethyl acetate and acetone, may be classified as hazardous substances, are flammable and, if exposed to human skin can cause anything from irritation to severe burns. We receive, store, use and dispose of such chemicals in compliance with all applicable laws with containment storage facilities and contained handling and disposal safeguards and procedures. We are routinely inspected by federal, state and local governmental and public safety agencies regarding our storage, use and disposal of such chemicals, including the federal Occupational, Safety and Health Agency ("OSHA"), the Oregon Department of Environmental Quality ("DEQ") and local fire departments, without any material noncompliance issues in such inspections. Further, our usage of such chemicals is limited and falls below the reporting thresholds under federal law. Based on our limited use of such chemicals, the nature of such chemicals and the safeguards undertaken by the Company for storage, use and disposal, we believe we do not have any material exposure for toxic tort liability. Further, the cost of such compliance is not a material cost in our operating budget. While we do not have toxic tort liability insurance at this time, we believe our current insurance coverage is adequate to cover most liabilities that may arise from our use of such substances. If we are wrong in any of our beliefs, we could incur a liability in certain circumstances that would be material to our finances and the value of an investment in our securities.

RISKS RELATED TO SHARE OWNERSHIP

Our right to issue preferred stock, our classified Board of Directors and Oregon Anti-Takeover laws may delay a takeover attempt and prevent or frustrate any attempt to replace or remove the then current management of the Company by shareholders.

Our authorized capital consists of 200,000,000 shares of common stock and 20,000,000 shares of preferred stock. Our board of directors, without any further vote by the shareholders, has the authority to issue preferred shares and to determine the price, preferences, rights and restrictions, including voting and dividend rights, of these shares. The rights of the holders of shares of common stock may be affected by the rights of holders of any preferred shares that our board of directors may issue in the future. For example, our board of directors may allow the issuance of preferred shares with more voting rights, higher dividend payments or more favorable rights upon dissolution, than the shares of common stock or special rights to elect directors.

In addition, we have a "classified" board of directors, which means that only one-half of our directors are eligible for election each year. Therefore, if shareholders wish to change the composition of our Board of Directors, it could take at least two years to remove a majority of the existing directors or to change all directors. Having a classified board of directors may, in some cases, delay mergers, tender offers or other possible transactions which may be favored by some or a majority of our shareholders and may delay or frustrate action by shareholders to change the then current Board of Directors and management.

The Oregon Control Share Act and Business Combination Act may limit parties who acquire a significant amount of voting shares from exercising control over us for specific periods of time. These acts may lengthen the period for a proxy contest or for a person to vote their shares to elect the majority of our Board and change management.

Our stock price is volatile and may fluctuate due to factors beyond our control.

Historically, the market price of our stock has been highly volatile. The table below shows the volatility of our stock over the past two calendar years and 2002 through May 31, 2002.

	Closing Sales Price	
Quarterly Period	**High**	**Low**
2000		
Quarter 1	$ 26.19	$ 5.44
Quarter 2	14.50	8.06
Quarter 3	10.00	6.41
Quarter 4	7.31	4.06
2001		
Quarter 1	$ 6.88	$ 3.00
Quarter 2	9.85	3.75
Quarter 3	10.45	5.86
Quarter 4	11.19	7.12
2002		
Quarter 1	$ 12.97	$ 8.04
Quarter 2 through May 31	$ 7.95	$ $4.50

The following types of announcements could have a significant impact on the price of our common stock: positive or negative results of testing and clinical trials by ourselves or competitors; delays in entering into corporate partnerships; technological innovations or commercial product introductions by ourselves or competitors; changes in government regulations; developments concerning proprietary

rights, including patents and litigation matters; public concern relating to the commercial value or safety of any of our products; or general stock market conditions.

Further, the stock market has in recent months experienced and may continue to experience significant price and volume fluctuations. These fluctuations have particularly affected the market prices of equity securities of many biopharmaceutical companies that are not yet profitable. Often, the effect on the price of such securities is unrelated or disproportionate to the operating performance of such companies. These broad market fluctuations may adversely affect the ability of a shareholder to dispose of his or her shares at a price equal to or above the price at which the shares were purchased.

The significant number of our shares of Common Stock eligible for future sale may cause the price of our common stock to fall.

As of May 31, 2002, we have outstanding 26,339,737 shares of common stock and all are eligible for sale under Rule 144 or are otherwise freely tradable, except for 4,530,885 shares which are awaiting registration, including the 3,070,671 shares being registered hereunder. The timing of the effectiveness of this registration statement is uncertain. In addition:

Our employees and others hold options to buy a total of 2,911,362 shares of common stock as of May 31, 2002. The shares of common stock to be issued upon exercise of these options have been registered, and therefore may be freely sold when issued.

There are outstanding warrants to buy 10,905,684 shares of common stock as of May 31, 2002. 4,416,814 shares issuable upon exercise of 4,416,814 warrants are registered and an additional 3,614,139 shares issuable upon exercise of warrants are under registration. These shares may be freely sold when issued. The holders of warrants covering 400,000 shares have incidental registration rights to have the shares issuable upon the exercise of their warrants registered. Once registered, those shares may be freely sold when issued, for so long as the registration statement is effective and current. The remaining warrants have no registration rights.

We may issue options to purchase up to an additional 879 shares of common stock under our stock option plans as of May 31, 2002, which also will be fully saleable when issued.

We are authorized to sell up to 197,688 shares of common stock under our Employee Stock Purchase Plan to our full-time employees, nearly all of whom are eligible to participate.

Besides issuing to Medtronic International, Inc. ("MIL," formerly Medtronic Asset Management, Inc.) a warrant for 3,000,000 shares ("Warrant Shares") of our Common Stock, we have also granted certain contractual rights to MIL to purchase (i) an additional 352,113 shares of our Common Stock at a price of $7.10 per share ("First Purchase Right") which shares are covered by this registration and (ii) the right to purchase up to $7,500,000 of our Common Stock based on the average closing sales price for the five days preceding the commitment to purchase. These contractual purchase rights are subject to certain technology milestones being met or waived by MIL and any required regulatory or shareholder approvals. MIL may require us to register these shares upon the exercise of such purchase rights. The Warrant Shares and shares of our Common Stock covered by the First Purchase Right are being registered for resale as part of this registration. Once registered, those shares may be freely sold when issued, for so long as the registration statement is effective and current.

Sales of substantial amounts of shares into the public market could lower the market price of our common stock.

We were unable to obtain Arthur Andersen LLP's consent to incorporate by reference in this offering Arthur Andersen's report on our financials for calendar years 2000 and 2001 which Arthur Andersen audited, which could reduce your rights if there were any material misstatements or omissions in such financial statements.

Our financial statements for our fiscal years ended December 31, 2001 and 2000 were audited by Arthur Andersen LLP ("Arthur Andersen") ("Current Financials"). Those Audited Financials were included in our Report on Form 10-K for the fiscal year ended December 31, 2001, filed with the Securities and Exchange Commission ("SEC") on April 1, 2002 ("2001 10-K"). On May 10, 2002, the audit partner and manager responsible for those audits, as well as all of the other audit and tax personnel of Arthur Andersen's Portland, Oregon office left Arthur Andersen. They subsequently joined the office of KPMG LLP ("KPMG") in Portland, Oregon. On May 15, 2002, we dismissed Arthur Andersen as our auditors and retained KPMG to ensure continuity in the personnel of our outside auditors and to retain the benefit and experience related to the Company of our prior audit. The SEC rules relating to the registration of the securities included in this offering require that we include in the registration of such shares the Current Financials and the auditor's report thereon by incorporation of and reference to our 2002 10-K and that we file a consent of Arthur Andersen to such inclusion of Arthur Andersen's report. We are unable to obtain such consent from Arthur Andersen. Arthur Andersen advised us that the SEC had prohibited Arthur Andersen giving such consent where the audit partner and manager responsible for the audits were no longer with Arthur Andersen which is the case with regard to our Current Financials. The SEC has adopted regulations whereby we can incorporate such Current Financials without Arthur Andersen's consent.

Without Arthur Andersen's consent to such inclusion in the registration of the shares being offered, you may not rely on their audit of the Current Financials in purchasing securities in this offering. As a result, your remedies as an investor against Arthur Andersen may be materially

reduced or eliminated in the event of a material misstatement or omission in such Current Financials. Under Section 11 of the Securities Act of 1933, as amended ("1933 Act"), you would otherwise have certain claims against Arthur Andersen if there were material misstatements or omissions related to Arthur Andersen's audit and opinion included in such Current Financials. Without such consent, there would not be such liability. Further, there may be similar claims and remedies under the antifraud provisions of the 1933 Act, the Securities Exchange Act of 1934 and applicable state securities laws that will also not be available against Arthur Andersen for the audit and material misstatements or omissions, if any, related to such audit without such consent. Further, in giving such consent, Arthur Andersen would normally undertake certain review and updating procedures that could uncover certain material misstatements or omissions, if they existed, in the Current Financials or require their qualification. The Current Financials incorporated herein will not have had the benefit of such review process and possible disclosure of any such misstatements, omissions or qualifications. While the Company is not aware of any material misstatements or omissions or qualifications related to the Current Financials or Arthur Andersen's audit work, there is no assurance that there are none. If there are any, the value of an investment in our securities could be adversely affected and an investor would not have any recourse against Arthur Andersen if it were otherwise responsible to investors under applicable law for such loss.

We do not expect to pay dividends in the foreseeable future.

We have never paid dividends on our shares of common stock and do not intend to pay dividends in the foreseeable future. Therefore, you should only invest in our common stock with the expectation of realizing a return through capital appreciation on your investment. You should not invest in our common stock if you are seeking dividend income.

NOTES TO READERS OF THIS PROSPECTUS

We were incorporated in Oregon in 1980. When we refer to "us," "we," "our," "the Company" and "AVI" in this Prospectus, we mean AVI BioPharma, Inc., and its consolidated subsidiaries. Our executive offices are located at One S.W. Columbia, Suite 1105, Portland, Oregon 97258. Our telephone number at that location is (503) 227-0554. Our World Wide Web address is http://www.avibio.com. Information contained on our website does not constitute part of this Prospectus.

We are subject to the informational requirements of the Exchange Act and file reports and other information with the Commission. Reports and other information which we file with the Commission, may be inspected and copied at the public reference facilities of the Commission at Judiciary Plaza, 450 Fifth Street, N.W., Room 1024, Washington, D.C. 20549, at prescribed rates. The Commission's telephone number is 1-800-SEC-0330. These materials may be obtained electronically by visiting the Commission's website on the Internet at http://www.sec.gov. Reports, proxy statements and other Company materials also can be inspected at 1735 K Street, N.W., Washington, D.C. 20006-1506 or obtained directly from the Company at the address and telephone listed above.

This Prospectus includes our trademarks and registered trademarks, including Avicine®, NEUGENE®, Restin-NG and Xactin . Each other trademark, trade name or service mark appearing in this Prospectus belongs to its holder.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Prospectus contains forward-looking statements regarding our plans, expectations, estimates and beliefs. Our actual results could differ materially from those discussed in, or implied by, these forward-looking statements. Forward-looking statements are identified by words such as "believe," "anticipate," "expect," "intend," "plan," "will," "may," and other similar expressions. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances are forward-looking statements. We have based these forward-looking statements largely on our expectations. Forward-looking statements in this Prospectus include, but are not necessarily limited to, those relating to:

our intention to introduce new products

receipt of any required FDA or other regulatory approval for our products

our expectations about the markets for our products

acceptance of our products, when introduced, in the marketplace

our future capital needs

success of our patent applications

Forward-looking statements are subject to risks and uncertainties, certain of which are beyond our control. Actual results could differ materially from those anticipated as a result of the factors described in the "Risk Factors" and detailed in our other Securities and Exchange Commission filings, including among others:

the effect of regulation by the FDA and other governmental agencies

delays in obtaining, or our inability to obtain, approval by the FDA or other regulatory authorities for our products

research and development efforts, including delays in developing, or the failure to develop, our products

the development of competing or more effective products by other parties

the results of pre-clinical and clinical testing

uncertainty of market acceptance of our products

problems that we may face in manufacturing, marketing, and distributing our products

our inability to raise additional capital when needed

delays in the issuance of, or the failure to obtain, patents for certain on our products and technologies

problems with important suppliers and business partners

Because of these risks and uncertainties, the forward-looking events and circumstances discussed in this Prospectus or incorporated by reference might not transpire. Factors that cause actual results or conditions to differ from those anticipated by these and other forward-looking statements include those more fully described in the "Risk Factors" section and elsewhere in this Prospectus.

BUSINESS

GENERAL OVERVIEW

Business

We are a biopharmaceutical company developing therapeutic products based on two distinct core technologies, our NEUGENE antisense and our Avicine cancer vaccine. Our principal products, when developed, will target life-threatening diseases, with initial applications in cardiovascular disease, colorectal cancer, pancreatic cancer, polycystic kidney disease, and drug metabolism. Currently approved drugs or other therapies often prove to be ineffective or produce undesirable side effects. Our pre-clinical and clinical studies indicate that our two core technologies may produce drugs that offer more effective treatment options and produce significantly fewer side effects than currently approved products. Our technologies are protected by a strong patent estate including 51 issued patents and 99 applications pending. Each of our lead product candidates, Resten-NG(TM) and Avicine, will address a large market estimated to exceed $1 billion worldwide.

Antisense Drugs (NEUGENEs)

We have developed third-generation antisense technology that we believe produces drugs that are more stable, specific, efficacious, and cost effective than other antisense or ribozyme compounds. Our NEUGENE compounds are distinguished by a novel backbone chemistry which replaces the natural or modified backbones of competing antisense or ribozyme technologies.

NEUGENES are synthetic polymers that block the function of selected genetic sequences involved in disease processes. Targeting specific genetic sequences provides for greater selectivity than that available through conventional drugs. NEUGENES have the potential to provide safe and effective treatment for a wide range of human diseases.

We have completed pre-clinical studies using our NEUGENE compounds in the treatment of cardiovascular disease, cancer, polycystic kidney disease, drug metabolism, inflammation, and infectious disease. We filed our first antisense Investigational New Drug application (IND) with the FDA for Resten-NG for cardiovascular restenosis in 1999 and began a Phase II clinical trial in late 2000. We have completed three Phase I trials and currently have three Phase I/II trials ongoing in various clinical indications.

Avicine Cancer Vaccine

Avicine, a therapeutic cancer vaccine, represents our most advanced product opportunity, having completed multi-center Phase II human clinical trials for colorectal cancer and pancreatic cancer. Cancer vaccines operate under the rationale that immunization stimulates an immune response that is effective in combating an existing cancer.

Avicine is directed against a hormone that is expressed on most cancers and is believed to promote the growth and spread of cancer. This hormone is called human chorionic gonadotropin (hCG) and is normally responsible for stimulating fetal development during pregnancy. However, it is also associated with cancer cells of all major types including cancers of the colon, pancreas, prostate, lung and breast. It is believed that hCG plays a similar role in both pregnancy and cancer. In both cases, it (i) serves as a growth factor encouraging rapid cell division, (ii) fosters the formation of blood vessels, (iii) stimulates invasion of other tissues, and (iv) dampens the immune system to allow the fetus, or the tumor, to avoid immune attack. Avicine is based, therefore, on an anti-hCG approach to treating cancer. Just as eliminating hCG prevents fetal development, it is believed that eliminating this hormone in cancer patients could slow or prevent cancer spread.

Avicine has completed six clinical studies in cancer, involving over 225 patients. From these studies, we believe that the vaccine is a safe and essentially non-toxic therapy and capable of producing a specific immune response in most patients. Further, the patients who mounted an immune response to hCG lived longer than patients treated with other conventional therapies. We intend to investigate further the use of Avicine alone or in conjunction with other approved therapies in Phase II and Phase III trials.

Strategy

We have the experience and resources to initiate drug discovery and development, and move drug candidates through pre-clinical development and mid-stage clinical trials (Phase I and Phase II). Our strategy for the near-term (2 to 3 years) is to license the marketing rights for our product candidates to pharmaceutical partners during or after Phase II clinical trials or co-develop product candidates with strategic partners. In this manner, late-stage clinical development and marketing will be the responsibility of the partner or licensee. With adequate resources we may consider assuming greater responsibility for the late-stage clinical development and marketing opportunities of future product candidates.

Bringing drug candidates to market involves a significant commitment of time and resources due to the clinical trial process required to obtain FDA approval to market products. The timeframe from the early drug discovery phase to FDA approval can be up to 15 years and the cost up to $500 million, with only a small percentage of early drug discovery candidates becoming successful commercial products. Our experience and resources enable us to initiate drug discovery and development and to move drug candidates through pre-clinical development, and Phase I

and II human clinical trials. Our near-term strategy is to co-develop products with strategic partners or to license the marketing rights for our products to pharmaceutical partners after we complete one or more clinical trials. In this manner, the costs associated with late-stage clinical development and marketing will be shared with, or the responsibility of, our strategic partners. To continue drug discovery and clinical development, we will need to raise additional capital from time to time and/or generate royalty or other income from our drug candidates. With additional resources we may consider assuming greater responsibility for the late-stage clinical development and marketing opportunities of future product candidates. As outlined under "Risk Factors," there are significant risks associated with our business.

Clinical Development Program

We are a biopharmaceutical company developing therapeutic products based on our NEUGENE antisense technology for the treatment of life-threatening diseases, with initial applications in cardiovascular disease, cancer, and drug metabolism, and our Avicine cancer vaccine with applications in cancer. Currently approved drugs or other therapies often prove to be ineffective in treating these diseases or produce undesirable side effects. Our core technologies are specifically aimed at overcoming these challenges. We currently have products at various stages of clinical development as summarized

below. We will not have marketable products until our drug candidates complete all required clinical trials and receive FDA approval. The following table summarizes our clinical development program.

Product Candidate	Pre-Clinical	Phase I	Phase II	Phase III
Avicine® (Colorectal Cancer Vaccine)	Completed	Completed	Completed	In progress
Avicine® (Pancreatic Cancer Vaccine)	Completed	Completed	In progress	Planned
Avicine® (Prostate Cancer Vaccine)	Completed	Completed	Planned	
Resten-NG (NeuGene for Restenosis)	Completed	Completed	In progress	Planned
Oncomyc-NG (NeuGene for Cancer)	Completed	Completed	In progress	
AVI-4126 (NeuGene for Polycystic Kidney Disease)	Completed	In progress	Planned	
AVI-4557 (NeuGene for drug metabolism	Completed	Completed	Completed	
AVI-4014 (NeuGene for Inflammation)	In progress	Planned		
AVI-4XXX (NeuGene for Prostate Cancer)	In Progress	Planned		
NeuBiotics (NeuGene Anti-infectives)	In progress	Planned		

Our costs for a clinical trial for AVI typically range between $300,000 and $500,000 for a Phase I trial, between $500,000 and $4 million for a Phase II trial and could range between $5 and $50 million for a Phase III trial. Because the scope, timing and issues encountered in each trial vary, we cannot predict the exact costs associated with a particular trial in advance. For the same reasons, we cannot predict the nature, timing and costs of future studies or trials for a product, how a product will proceed toward and through Phase III clinical trials and, if Phase III clinical trials are successful, when and if FDA approval will be sought and received.

BUSINESS STRATEGY

Our strategy is to:

- reduce risk associated with product development by exploiting two core technologies;
- select disease targets with broad or multiple disease applications;
- manage drug discovery, pre-clinical and early to mid-stage clinical development in-house; and
- co-develop or license products to strategic partners during or after completion of Phase II clinical trials to enhance value and share the costs of late stage clinical trials and commercialization.

NEUGENE Antisense Technology

Technical Overview

Most human diseases arise from the function or dysfunction of genes within the body, either those of pathogens, such as viruses, or of one's own genes. The Human Genome Project has led to the identification of all of the genes and many of the gene sequences associated with most major human diseases. Using modern methods of chemical synthesis, compounds can be prepared that recognize target gene sequences in a pathogen or pathogenic process. When these compounds bind tightly to the disease-causing sequence, the genetic process is inhibited, and thus the pathogen or pathogenic process is disabled. This is called antisense technology because the sense of the genetic code is blocked.

Antisense compounds are composed of repeating structures, or subunits, that are linked together forming a polymer, referred to as the antisense backbone. Each subunit carries a genetic letter that pairs with its corresponding letter in the gene target. Although the genetic letters are a feature common to all antisense compounds, the structure of the subunits and the linkage groups that string them together may differ greatly. These differences in the subunits and the linkages define the different types of antisense backbones and their corresponding physical and biological properties. Our NEUGENE technology is distinguished from all other antisense technologies by the characteristics of our patented antisense backbone. The subunits which carry the genetic letters on our backbone are synthetic products rather than modified natural materials. In addition, the linkages used to string the subunits together carry no charge in our backbone. We believe these differences provide pharmaceutical advantages that are critical for antisense drug development to meet the challenges of broad clinical utility.

The first antisense compounds had backbones composed of natural genetic materials and linkages. These natural compounds were degraded or broken down by enzymes in the blood and within cells and had difficulty crossing cellular membranes to enter the cells that contained their genetic target. Researchers developed modified backbones which were designed to resist degradation by enzymes and to enter tissues and cells more efficiently. The most common of these types, the phosphorothioate backbones used by ISIS Pharmaceuticals, Inc., Genta Incorporated, and others, use natural DNA subunits linked together by a charged linkage. After extensive investigation, we concluded that these early product candidates lacked the pharmaceutical properties desirable for broad clinical utility. We abandoned development of similar structures in 1988 and started development of a novel backbone chemistry designed to address these drawbacks.

NEUGENE Technology

We have developed and patented a new class of antisense compounds, known as NEUGENEs, which have a backbone of synthetic subunits carrying each genetic letter, with each subunit linked together by a patented uncharged linkage group. We believe our principal competitive advantage in the antisense area is the chemical structure of the NEUGENE backbone that we developed specifically to have the following pharmaceutical properties:

STABILITY: Biological stability is principally determined by the degree of resistance to enzymatic degradation. Because the NEUGENE backbone is a unique synthetic structure, there are no enzymes found in man to degrade it. Our NEUGENE drugs have been shown to be completely stable in our human clinical trials.

EFFICACY AND SPECIFICITY: Efficacy refers to the efficiency with which antisense compounds block selected gene targets. In direct comparisons with other technologies, our NEUGENE compounds exhibited significantly better efficacy in inhibition of targeted genetic sequences and substantially greater specificity.

DELIVERY: To reach their targets, antisense compounds must cross tissue and cellular barriers, including cellular and nuclear membranes. Our extensive research in the last three years has shown that NEUGENE antisense compounds achieve functional delivery in a variety of animal models and in human clinical trials.

SAFETY: Our Phase I human clinical trial results indicate that NEUGENE antisense agents have an excellent safety profile, even at doses in vast excess of those anticipated for our initial human therapeutic applications.

Near-Term Product Development Cardiovascular Disease And Cancer

The first application of our antisense technology is designed to treat diseases involving abnormal cell division, such as cancer and certain cardiovascular and inflammatory diseases, including restenosis, psoriasis, polycystic kidney disease and chronic graft rejection. The NEUGENE target for these diseases is the genetic component named c-myc. We have finished pre-clinical development of three NEUGENE drugs, Resten-NG and Oncomyc-NG and AVI-4126, based on this target. In late 1999, we filed an Investigational New Drug Application, or IND, and initiated a Phase I clinical trial for cardiovascular restenosis and cancer. These Phase I safety studies in 32 patients completed in April 2000 showed these compounds to be safe and essentially non-toxic.

Pre-clinical studies with Resten-NG indicated that it was both more effective and less toxic than other antisense agents currently in clinical development for restenosis, a frequent complication that follows balloon angioplasty for coronary artery disease. Our studies also indicated significant preservation of vessel passageways and prevention of arterial wall thickening following catheter delivery of Resten-NG. We commenced Phase II human clinical trials, involving about 100 patients, in cardiovascular restenosis in June 2000.

Restenosis, the blockage of the arteries following balloon angioplasty, affects 100,000 to 200,000 people per year in the United States and its occurrence is unpredictable. We believe Resten-NG, with its combination of potency and lack of toxicity, may be useful as a preventative measure in the more than one million balloon angioplasty procedures performed worldwide each year.

We have finished pre-clinical development of our second and third NEUGENE drugs, Oncomyc-NG, for cancer indications, and AVI-4126, for polycystic kidney disease (PKD). We are currently conducting a pilot Phase I/II trial with Oncomyc-NG in patients with different types of cancer and a Phase I/II clinical trial in patients with PKD. Both trials were initiated in 2001. Our second NEUGENE antisense target for clinical development is Cytochrome P450 3A4 (CYP 3A4).

This gene target codes for a liver enzymes responsible for the metabolism (break down) of drugs in the body. By blocking this gene expression, the liver cannot make the cyp3a4 enzyme and drugs that are metabolized by this enzyme stay active in the body much longer. The CYP 3A4 enzyme controls the break down of about half of all current FDA approved drugs. We have finished extensive pre-clinical studies on this NEUGENE agent and moved into Phase I/II clinical studies in fall 2001. Phase I safety studies finished in late 2001 and efficacy studies finished in the first quarter of 2002. We expect to report the results from these studies at the appropriate medical and scientific forums later in 2002. This approach has the potential to improve the effectiveness and/or lower the toxicity of many existing drugs, including those with large proven markets.

The broad applicability of our antisense platform has allowed us to initiate pre-clinical and clinical development of NEUGENE drugs for several other indications as outlined in the following table.

The table below summarizes our broader development program for NEUGENE:

NEUGENE ANTISENSE DEVELOPMENT PROGRAM

Antisense Target	Clinical Indication
c-myc	Cancer, restenosis, polycystic kidney disease

Antisense Target	Clinical Indication
CYP 3A4	Drug Metabolism
NF kappa B	Arthritis, chronic inflammation
TNF alpha	Arthritis, septic shock, asthma
HMG CoA Reductase	Cholesterol lowering
Androgen Receptor	Prostate cancer
TGF beta	Stem cell expansion
Bacterial targets	Antibiotics for infectious disease
Hepatitis C virus	Hepatitis

CANCER IMMUNOTHERAPY

Cancer is the second leading cause of death in the United States with an incidence of 1,500 deaths per day. There are approximately eight million Americans living with a history of cancer, and over 500,000 new cases are diagnosed annually. Lung, prostate, breast and colorectal cancers are the four most common types of cancer, accounting for over 50% of all new diagnoses. In 2000, the market opportunities for drugs to treat each of these cancer types were estimated to be in excess of $1 billion annually.

The principal therapy available for patients with advance forms of cancer traditionally has been chemotherapy. Chemotherapeutic approaches produce considerable toxic and undesirable side effects and historically have done little to influence patient survival.

Immunotherapy with vaccines or antibodies is among the newer strategies being investigated for treating cancer. Historically, vaccines were developed and used to induce an immune response in order to prevent a disease. In contrast, therapeutic vaccines are administered when the patient already has the disease.

For a therapeutic vaccine to be effective in fighting a disease such as cancer, it is necessary to first identify a specific target associated with cancer cells. The more selective the target associated with cancer is, the greater the likelihood that the stimulated immune response will be effective in fighting cancer growth. The identification of a unique hormone associated with most cancers led to the development of our vaccine approach.

AVICINE THERAPEUTIC CANCER VACCINE

Technical Overview

Avicine, our therapeutic cancer vaccine, is designed to produce an immune response against a well-known hormone, human chorionic gonadotropin (hCG), that was found to be associated with most cancers. The hCG hormone is produced during pregnancy and plays a central role in fostering the development of a fetus. Through extensive research, scientists found that hCG is also present in most cancers and is believed to promote growth like it promotes fetal growth.

The hCG component (antigen) in Avicine is a small peptide from this hormone. The peptide is joined to a component (antigen) in Avicine is a small peptide from this hormone. The peptide is joined to a carrier, diphtheria toxoid, to enhance the immune response. Diphtheria toxoid was selected since most of the world's population has been vaccinated against it and there is significant experience with it as a vaccine component in man. The combination stimulates an immune response to the hCG peptide which recognizes the hormone and eliminates it from the body. This means that in vaccinated individuals, the hCG hormone could not function in pregnancy nor in cancer. If this hormone promotes cancer like it promotes fetal development, then immunized cancer patients may have improved survival. Avicine is based on this premise.

Avicine Clinical Trials

We have completed three Phase I clinical trials using Avicine in 87 patients with cancer. Overall, these studies showed Avicine to be safe and essentially non-toxic, and to be effective in stimulating an immune response to hCG in most patients. Moreover, apparent survival benefits and some tumor regressions were noted.

Colorectal Cancer Trials

A multicenter Phase II study of Avicine was conducted in 77 patients with advanced colorectal cancer in 1997-1999. The objectives of this trial were to determine whether administration of Avicine

would induce an immune response in patients with metastatic colorectal cancer, and to measure safety and efficacy in these patients. Overall, 51 of the 77 patients responded to our vaccine by producing antibodies to hCG. The patients that were antibody responders had a median survival of 42 weeks. Patients that did not respond had a median survival of just 17 weeks.

Further analysis of the multicenter Phase II data showed that patients who produced antibodies to both targets on the hCG peptide had a median survival of 66 weeks. Camptosar®, the current standard of care for treating advanced colorectal cancer patients, produces a median survival of 37-40 weeks.

Overall, these clinical data suggest that the patients who received Avicine and responded by making hCG antibodies had improved median survival compared to patients treated with chemotherapeutic drugs. Avicine was found to be safe and did not exhibit the toxicity associated with cytotoxic drug treatment. Based on these data, we started a Phase III pivotal trial in 800 patients with metastatic colorectal cancer in 2001. This trial randomizes patients receiving first-line therapy for metastatic colorectal cancer to one of two treatments: combination chemotherapy or combination chemotherapy plus Avicine. The trial will be evaluated by comparing median survival and time-to-disease progression in the two treatments. The FDA has recently reviewed the safety profile of the combination chemotherapy that is currently the standard of care in first-line colorectal cancer. Concerns with this type of combination chemotherapy are prompting all investigators using it, including AVI, to re-evaluate study designs with this type of chemotherapy. We may modify our protocol in this Phase III trial in consultation with the FDA to avoid the toxicity associated with the chemotherapy used in each of the study arms. We are considering modifying the protocol to second-line therapy which would avoid the toxicity associated with combination chemotherapy and shorten the study timeline.

Pancreatic Cancer Trial

We have completed two Phase II trials in pancreatic cancer, the first of which was a pilot Phase II study using Avicine in 10 patients with advanced pancreatic cancer. In this study, the median survival was approximately 33 weeks. Patients with advanced pancreatic cancer are currently treated with chemotherapy and have a median survival of approximately 18 to 25 weeks.

Based on these results we conducted a second multi-center trial with 54 patients with pancreatic cancer. Patients were randomized to two arms, treatment with Avicine alone or Avicine in combination with Eli Lilly's drug Gemzar. Historically patients treated with Gemzar exhibit a median survival of about 23 weeks and a 15% one-year survival rate. This study was completed in late 2001 and showed that median survival in both of the treatment arms were essentially equivalent to Gemzar. Importantly, patients treated with Avicine alone showed less toxicity compared to patients receiving Gemzar. The one-year survival in the Avicine alone arm was similar to Gemzar at about 15% while the combination of the two drugs showed 30% survival at one year, a statistically significant improvement.

Our clinical trial experience with Avicine is summarized in the following table.

AVICINE CLINICAL TRIALS

TRIAL	DESCRIPTION & TYPE	PATIENTS	STATUS
1	Phase I safety study	43 treated	Completed

TRIAL	DESCRIPTION & TYPE	PATIENTS	STATUS
2	Phase I metastatic cancer	21 treated	Completed
3	Phase Ib metastatic cancer	23 treated	Completed
4	Phase II pancreatic and extension	10 treated	Completed
5	Phase II colorectal	77 treated	Completed
6	Phase II pancreatic	54 treated	Completed
7	Phase III pancreatic trial	600	Planned
8	Phase III colorectal trial	800	In progress

We have drawn the following conclusions from completing 6 clinical trials with Avicine. First, this vaccine is safe and essentially non-toxic. Second, Avicine stimulates an immune response to hCG in cancer patients that is effective at functionally eliminating the biological effects of hCG. Third, cancer patients that responded to the vaccine had benefits compared to chemotherapy due to less toxicity, improved survival, or both. Based upon these conclusions, we believe that Avicine has as good a chance of approval following Phase III trials as any new drug in cancer development.

COLLABORATIVE AGREEMENTS

We believe that our cancer vaccine and antisense technologies are broadly applicable for the potential development of pharmaceutical products in many therapeutic areas. To exploit our core technologies as fully as possible, our strategy is to enter into collaborative development agreements with major pharmaceutical companies for all cancer applications with our vaccine, and agreements directed at specific molecular targets for our NEUGENE antisense technology. It is anticipated that NEUGENE antisense collaborative research agreements may provide us with some funding for internal programs aimed at discovering and developing antisense compounds to inhibit the production of additional individual molecular targets. Partners in antisense may be granted options to obtain licenses to co-develop and to market drug candidates resulting from their collaborative research programs. We intend to retain manufacturing rights to our antisense products. There can be no assurance, however, that we will be able to enter into collaborative research agreements with large pharmaceutical companies on terms and conditions satisfactory to us. The agreements described in this "Collaborative Agreements" section are generally only cancelable for nonperformance, including failure to make any payments and, in some cases, failure to commercially exploit the technology. There is no assurance the proposed products will be successfully developed under these collaborative arrangements or we will receive any of the potential payments noted herein.

SuperGen Alliance

In April 2000, we entered into an alliance with SuperGen, Inc. ("SuperGen") for shared development and marketing rights for Avicine. Under the terms of the agreement, SuperGen and AVI will equally share clinical development and FDA registration costs going forward and share profit equally from product sales in the United States. Our share of such costs are expected to approximate $10 million over the next two to three years and up to $15 million in the aggregate with development expected to take at least three to four years. We will be responsible for the manufacturing of Avicine

and SuperGen will be responsible for marketing and sales. In May 2000, we received a $20 million equity investment from SuperGen and could receive additional payments of up to $80 million based upon achievement of commercialization milestones. Those payments include the following milestone payments, plus certain payments based on product sales (i) $2.5 million in SuperGen stock or cash, upon each completion of Phase III trial for the pharmaceutical product containing Avicine or a derivative thereof as an active ingredient and (ii) acceptance by the FDA of New Drug Acceptance ("NDA") and (iii) $5 million in SuperGen stock or cash, upon the date the first commercial sale of a pharmaceutical product containing Avicine or a derivative thereof as an active ingredient occurs within the United States. Commercialization cash milestone payments occur at the following annual sales levels: $100 million, $250 million, $500 million, and $1 billion. Payments to AVI occur at the first achievement of these sales levels and increase from $10 million to $25 million in $5 million increments, with a maximum of one milestone payment per year.

Unless terminated earlier, our agreement with SuperGen expires upon the earlier of (i) the date upon which a generic version of the product is first sold in the U.S. by someone other than Super Gen or (ii) the date which is 15 years after the date of regulatory approval of Avicine in the United States, subject to certain extension rights.

Abgenix Alliance

We currently have an alliance with Abgenix, Inc. ("Abgenix") for the development of human monoclonal antibodies for cancer. We have licensed from Abgenix the use of Abgenix XenoMouse technology for the production of human monoclonal antibodies against hCG. Our Avicine clinical trials have defined the hCG targets that are important in prolonging patient survival. We have developed human monoclonal antibodies to these targets and two of them are now in pre-clinical trials. Abgenix is to receive payments based on achievement of clinical development milestones and a royalty on sales if our antibodies are commercialized. We expect to expend less than $1 million over the next two years in developing products under the agreement. The results of our preclinical trials will determine how and whether we proceed with further trials.

We paid Abgenix the initial sum of $125,000 for the product license described above. We would pay Abgenix the following payments based on achievement of clinical development milestones and a royalty on sales, if our antibodies are commercialized using the Abgenix technology: (a) $350,000 upon the first Investigational New Drug application filed with the FDA and Drug Administration in the United States, or similar filing with any foreign regulatory authority, to commence human clinical testing, for the first product; (b) $650,000 upon enrollment of the first patient in the first Phase II clinical trial (or its equivalent) for the first product; (c) $1,000,000 upon enrollment of the first patient in the first Phase II clinical trial for each product; (d) $2,000,000 upon filing the first Biologics License Application or New Drug Application (or its equivalent) for each product; and (e) $3,000,000 upon first regulatory approval to market each product.

Upon commercialization of any products, we will pay Abgenix a running royalty of seven and one-half percent (7.5%) of net sales of such product; subject to reduction to five percent (5%) of net sales of such product in certain cases. Our obligation to pay royalties on net sales of a product will continue while there exists a patent claim in the country where such product is made, used or sold that covers our manufacture, use or sale of such product or (ii) XenoMouse animals or their use, or, if there is no such patent for ten (10) years after the royalty commencement date for such product in a country.

NEUGENE Alliances

We anticipate that NEUGENE antisense collaborative research agreements may provide us with funding for internal programs aimed at discovering and developing antisense compounds to inhibit the

production of additional molecular targets. Partners in antisense may be granted options to obtain licenses to co-develop and to market drug candidates resulting from their collaborative research programs. We currently have a research alliance with XTL Biopharmaceuticals Ltd. for pre-clinical development of Hepatitis B and C antisense drugs. If this program moves into clinical development stages, XTL and we will negotiate a joint venture development and marketing agreement with XTL under basic terms previously set forth. None of these agreements obligate us to spend any particular amounts in exploiting products. We expect to expend approximately $3 million on development efforts over the next two years related to these products.

Exelixis Agreement

In April 2000, we entered into an alliance with Exelixis Inc. ("Exelixis") for functional genomics and antisense drug development. Under the terms of the agreement, Exelixis will apply its expertise in genetic model systems to discover, validate and screen novel targets suitable for inhibition by antisense therapeutics. We will design and synthesize NEUGENE morpholinos for use as drugs and conduct preclinical and clinical studies on antisense drug candidates arising from the collaboration. We expect to expend approximately $3 million over the next two years in developing product under the agreement and up to $10 million in the aggregate. The collaborative research project and our obligations to supply PMOs to Exelixis under the agreement expires April 30, 2006. Except as noted, we and Exelixis will jointly own, and Exelixis has an option to co-develop with us, certain antisense products that arise from the alliance.

In the event we and Exelixis co-fund the development of any antisense therapeutic and/or commercialization of any product, the license granted will be a world-wide, co-exclusive license and involve profit-sharing with respect to any such co-funded product in lieu of royalties. Product is defined by our agreement with Exelixis as any human therapeutic or prophylactic product which received regulatory approval that contains or comprises an antisense therapeutic.

Under our agreement with Exelixis, an "Exelixis Product" is defined as, and is deemed to exist when we decide to terminate the development of a co-funded antisense therapeutic and/or commercialization of a particular co-funded product that is being co-funded by Exelixis, and Exelixis assumes the costs and obligations of the continued development of the co-funded antisense therapeutic and/or commercialization of such co-funded product (Exelixis Product"). Similarly, an AVI product is one that is funded by us and not co-funded by Exelixis ("AVI Product").

Generally, a 3% or 5% royalty on net sales is payable by the developing party on products covered by the agreement that are not jointly developed. Generally, a party's right to receive royalties expires on a country-by-country basis upon the later of (i) 12 years from the first commercial sale of such product in that country; or (ii) expiration of the last to expire Exelixis patent or AVI patent in such country claiming the antisense therapeutic in such AVI product or such AVI product or the manufacture, use or sale of such product.

Medtronic Agreement

In May 2001, we entered into a licensing arrangement with Medtronic wherein Medtronic received exclusive rights for certain antisense compounds, for use in conjunction with Medtronic devices, to combat vascular disease, including restenosis. We also entered into a supply agreement to provide product to Medtronic. Under an investment agreement, we received a $10 million equity investment from Medtronic International, Ltd. ("MIL," formerly Medtronic Asset Management, Inc.). In the future, we could receive certain milestone payments, license royalties and proceeds from rights to acquire our securities. Based on certain technology milestones being met or waived by MIL, MIL has the right to acquire 352,113 shares of our common stock at $7.10 per share and shares with an aggregate value of $7.5 million at a purchase price per share based on market prices at the times the

purchase rights mature. In addition, MIL holds a warrant to purchase up to 3,000,000 shares of our common stock at $7.10 per share.

MANUFACTURING

We believe we have developed proprietary manufacturing techniques that will allow large-scale, low-cost synthesis and purification of NEUGENEs. Because our NEUGENE compounds are based upon a flexible backbone chemistry, we believe that NEUGENE synthesis will be more cost-effective than competing technologies. We have recently established a Good Manufacturing Practices, or GMP, manufacturing facility at our Corvallis, Oregon offices. Our GMP facility should provide sufficient manufacturing capacity to meet our clinical trial requirements for the foreseeable future and allow us to produce products incorporating our technology.

We currently intend to retain manufacturing rights for all products incorporating our patented antisense technology, whether sold directly by us or through collaborative agreements with industry partners. We have also contracted with a GMP facility to produce our near term antisense therapeutic candidates and vaccine for current pre-clinical and clinical trial studies while we bring our facility up to full production capacity. Our GMP facility is subject to FDA inspection and regulation.

In March 1993, we moved to our present laboratory facilities. This facility and the laboratory procedures followed by us have not been formally inspected by the FDA and will have to be approved as products move from the research phase through the clinical testing phase and into commercialization. See "Drug Approval Process and Other Governmental Regulations."

MARKETING STRATEGY

We plan to market the initial products when developed, and for which we obtain regulatory approval, through marketing arrangements or other licensing arrangements with large pharmaceutical companies. Implementation of this strategy will depend on many factors, including the market potential of any products we develop, and our financial resources. We do not expect to establish a direct sales capability for therapeutic compounds for at least the next several years. To market products that will serve a large, geographically diverse patient population, we expect to enter into licensing, distribution, or partnering agreements with pharmaceutical companies that have large, established sales organizations. The timing of our entry into marketing arrangements or other licensing arrangements with large pharmaceutical companies will depend on successful product development and regulatory approval within the regulatory framework established by the Federal Food, Drug and Cosmetics Act, as amended, and regulations promulgated thereunder. Although the implementation of initial aspects of our marketing strategy may be undertaken before this process is completed, the development and approval process typically is not completed in less than three to five years after the filing of an IND application and our marketing strategy therefore may not be implemented for several years. See "Drug Approval Process and Other Governmental Regulation."

PATENTS AND PROPRIETARY RIGHTS

We have developed or acquired a comprehensive body of intellectual rights. The proprietary nature of, and protection for, our product candidates, processes and know-how are important to our business. We plan to prosecute and aggressively defend our patents and proprietary technology. Our policy is to patent the technology, inventions, and improvements that are considered important to the development of our business. We also depend upon trade secrets, know-how, and continuing technological innovation to develop and maintain our competitive position.

We own 51 patents covering various aspects of our current technology platforms and future development technologies. We have 99 additional pending patent applications relating to our NEUGENE, Avicine, and other technologies. We intend to protect our proprietary technology with

additional filings as appropriate. Some of our patents on core technologies expire as early as 2010, including for NEUGENES; however, based on patented improvements and additions to such core patents, we believe our patent protection for those products and other products would extend beyond 2020.

We have also acquired certain product/technology licenses from The Ohio State University and Dr. Vernon Stevens. These properties include exclusive royalty-bearing licenses covering the composition, manufacturing and use of Avicine in all fields of use, including treating and preventing cancer, with the exception of fertility regulation. Our proprietary rights also include the unrestricted use of vaccine technology for non-hormonal cancer applications. We enjoy the right to commercialize any new intellectual property relating to our licensed subject matter including access and use of all new experimental data resulting from Dr. Stevens' research. Our licenses have been granted for a period of 30 years or 10 years from the expiration of the last issued patent, whichever comes later. Under these licensing agreements, we have the right to sublicense our products and technology throughout the world. For such rights, we are obligated to pay the licensors minimum annual royalties of $60,000 through the third quarter of 2001 and $55,000 thereafter. Subject to such minimums, the royalties are 5% of net sales of products from licensed technology in the United States and Canada; 2% of net sales in countries of the "European Economic Community"; and 25% of any royalties received by us for sublicenses in the United States, the "European Economic Community" or in Korea, subject to certain maximums. We have licensed certain technology from the Public Health Service (and others) which technology supplements and supports certain of our core technology. We have certain obligations and minimum royalties under those agreements which costs are not deemed material to our business.

There can be no assurance that any patents we apply for will be granted or that patents held by us will be valid or sufficiently broad to protect our technology or provide a significant competitive advantage. Additionally, we cannot provide assurance that practice of our patents or proprietary technology will not infringe third-party patents.

DRUG APPROVAL PROCESS AND OTHER GOVERNMENT REGULATION

The United States system of new drug approvals is the most rigorous in the world. According to the Pharmaceutical Research and Manufacturers of America, it costs an average of $500 million and takes an average of almost 15 years from the discovery of a compound to bring a single new pharmaceutical to market. For every 5,000 to 10,000 chemically synthesized molecules screened, only 250 are ever issued an Investigational New Drug Application, or IND, and tested in humans. Of those, the FDA will approve only one for commercialization. Yet, in recent years, societal and governmental pressures have created the expectation that biotech and pharmaceutical companies will reduce the costs for drug discovery and development without sacrificing safety, efficacy and innovation. The need to significantly improve or provide alternative strategies for successful pharmaceutical discovery, research and development remains a major health care industry challenge.

Drug Discovery

In the initial stages of drug discovery before a compound reaches the laboratory, tens of thousands of potential compounds are randomly screened for activity against an assay assumed to be predictive for particular disease targets. This drug discovery process can take several years. Once a company locates a screening lead, or starting point for drug development, isolation and structural determination may begin. The development process results in numerous chemical modifications to the screening lead in an attempt to improve its drug properties. After a compound emerges from the above process, the next steps are to conduct further preliminary studies on the mechanism of action, further in vitro (test tube) screening against particular disease targets and, finally, some in vivo (animal) screening. If the compound passes these barriers, the toxic effects of the compound are analyzed by performing preliminary exploratory animal toxicology. If the results are positive, the compound emerges from the basic research mode and moves into the pre-clinical phase.

Pre-Clinical Testing

During the pre-clinical testing stage, laboratory and animal studies are conducted to show biological activity of the compound against the targeted disease, and the compound is evaluated for safety. These tests typically take approximately three and one-half years to complete.

Investigational New Drug Application

During the pre-clinical testing, an IND is filed with the FDA to begin human testing of the drug. The IND becomes effective if not rejected by the FDA within 30 days. The IND must indicate the results of previous experiments, how, where and by whom the new studies will be conducted, the chemical structure of the compound, the method by which it is believed to work in the human body, any toxic effects of the compound found in the animal studies and how the compound is manufactured. In addition, an Institutional Review Board, comprised of physicians at the hospital or clinic where the proposed studies will be conducted, must review and approve the IND. Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA.

Phase I Clinical Trials

After an IND becomes effective, Phase I human clinical trials can begin. These tests, involving usually between 20 and 80 patients or healthy volunteers, typically take approximately one year to complete. The Phase I clinical studies also determine how a drug is absorbed, distributed, metabolized and excreted by the body, and the duration of its action. Phase I trials are not normally conducted for anticancer product candidates.

Phase II Clinical Trials

In Phase II clinical trials, controlled studies are conducted on approximately 100 to 300 volunteer patients with the targeted disease. The preliminary purpose of these tests is to evaluate the effectiveness of the drug on the volunteer patients as well as to determine if there are any side effects. These studies generally take approximately two years, and may be conducted concurrently with Phase I clinical trials. In addition, Phase I/II clinical trials may be conducted to evaluate not only the efficacy of the drug on the patient population, but also its safety.

Phase III Clinical Trials

This phase typically lasts about three years and usually involves 1,000 to 3,000 patients. During the Phase III clinical trials, physicians monitor the patients to determine efficacy and to observe and report any reactions that may result from long-term use of the drug.

New Drug Application

After the completion of all three clinical trial phases, if the data indicate that the drug is safe and effective, a New Drug Application, or NDA, is filed with the FDA. The NDA must contain all of the information on the drug gathered to that date, including data from the clinical trials. NDAs are often over 100,000 pages in length. The average NDA review time for new pharmaceuticals approved in 1997 was 16.2 months, down from 23 months in 1996.

Marketing Approval

If the FDA approves the NDA, the drug becomes available for physicians to prescribe. Periodic reports must be submitted to the FDA, including descriptions of any adverse reactions reported. The FDA may request additional studies (Phase IV) to evaluate long-term effects.

Phase IV Clinical Trials And Post-Marketing Studies

In addition to studies requested by the FDA after approval, these trials and studies are conducted to explore new indications. The purpose of these trials and studies and related publications is to broaden the application and use of the drug and its acceptance in the medical community.

COMPETITION

Companies in the cancer vaccine development area include Progenics Pharmaceutical, Inc., Corixa Corporation, Biomira Inc., E. Merck and Bristol Meyers-Squibb. Several companies are pursuing the development of antisense technology, including Glaxo, Boehringer Ingelheim, Merck, Genta Incorporated, and ISIS Pharmaceuticals. All of these companies have products in development stages, and, in some cases, are in human trials with antisense compounds generally similar to our NEUGENE compounds.

While we believe that none of these companies is likely to introduce an additional antisense compound into the broad commercial market in the immediate future, many pharmaceutical and biotechnology companies, including most of those listed above, have financial and technical resources greater than those currently available to us and have more established collaborative relationships with industry partners than we do. We believe that the combination of pharmaceutical properties of our NEUGENE compounds for restenosis, cancer and drug metabolism affords us competitive advantages when compared with the antisense compounds of competitors.

We can also expect to compete with other companies exploiting alternative technologies that address the same therapeutic needs as do our technologies. The biopharmaceutical market is subject to rapid technological change, and it can be expected that competing technologies will emerge and will present a competitive challenge to us.

EMPLOYEES

As of May 31, 2002, we had 90 employees, 22 of whom hold advanced degrees. Eighty-three employees are engaged directly in research and development activities, and seven are in administration. None of our employees is covered by collective bargaining agreements, and we consider relations with our employees to be good.

PROPERTIES

We occupy 30,900 square feet of leased laboratory and office space at 4575 S.W. Research Way, Suite 200, Corvallis, Oregon 97333. The lease on our space expires in December 2007. Our executive office is located in 2,400 square feet of leased space at One S.W. Columbia, Suite 1105, Portland, Oregon 97258. This lease expires July 2004. We believe that our facilities are suitable and adequate for our present operational requirements for the foreseeable future.

LEGAL PROCEEDINGS

We are not aware of any legal proceedings against us that, individually or in the aggregate, would have a material adverse effect on our business, results of operations or financial condition.

USE OF PROCEEDS

We are not selling any of the shares being offered by this prospectus and will not receive any proceeds from the sale of the shares offered by the selling shareholders.

OUR SELLING SHAREHOLDERS

The following table provides certain information with respect to the Shares held by each Selling Shareholder as of May 31, 2002. Except as otherwise noted, all of the Common Shares owned by each Selling Shareholder are registered for sale pursuant to this Prospectus. The Selling Shareholders, however, are not under any obligation to sell all or any portion of their Shares, nor are the Selling Shareholders obligated to sell any of their Shares immediately under this Prospectus. To our knowledge, none of the Selling Shareholders has had within the past three years any material relationship with us

except as noted above or in our SEC filings incorporated by reference into this prospectus. The shares offered hereby shall be deemed to include shares offered by any pledgee, donee, transferee or other successor in interest of any of the Selling Shareholders listed below, provided that this prospectus is amended or supplemented if required by applicable law.

	SHARES OWNED AFTER OFFERING

SELLING SHAREHOLDER	NUMBER OF COMMON SHARES BENEFICIALLY OWNED BEFORE OFFERING[1]	SHARES OFFERED IN THIS REGISTRATION	SHARES OWNED AFTER OFFERING	
			NUMBER	PERCENT
Medtronic *International, Inc.* ("MIL")(2)	4,760,564[3]	4,760,564		
Thomas Jefferson University(4)	100,000	100,000		
TOTALS	4,860,564	4,860,564	0	0.0%

(1) Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission and generally includes voting or investment power with respect to securities. Shares of Common Stock subject to options and warrants currently exercisable or convertible, or exercisable or convertible within 60 days of May 31, 2002, are deemed beneficially owned and outstanding for computing the percentage of the person holding such securities, but are not considered outstanding for computing the percentage of any other person.

(2) MIL's Board of Directors has sole voting and investment power over the securities held by MIL. MIL's directors are Gary L. Ellis, Vice President, Corporate Controller and Treasurer of Medtronic, Inc. (MIL's parent) and Vice-President, Controller, Treasurer and Director of MIL, Robert L. Ryan, Senior Vice President and Chief Financial Officer of Medtronic, Inc. and Vice President, Chief Financial Officer and Director of MIL and David J. Scott, Senior Vice President and General Counsel and Secretary of Medtronic, Inc. and Vice President, Secretary and Director of MIL.

(3) Includes 3,000,000 shares of our Common Stock issuable under a warrant held by MIL and 352,113 shares issuable under our Investment Agreement with MIL.

(4) Dr. Paul C. Bruckes, President, Richard J. Schmid, Chief Financial Officer, Ronald C. Keller, Controller, and Alfred C. Salvato, Treasurer, of Thomas Jefferson University, each has investment and voting power over the securities held by Thomas Jefferson University.

PLAN OF DISTRIBUTION

When used in this prospectus, "Selling Shareholder" includes pledgees, donees, transferees, and other successors in interest selling shares received from the named Selling Shareholder after the date of this prospectus.

The Selling Shareholders may distribute the common stock from time to time in one or more transactions at a fixed price or prices, which may be changed from time to time:

at market prices prevailing at the times of sale,

at prices related to those prevailing market prices, or

at negotiated prices.

We will not receive any proceeds from the sale of the common stock.

The Selling Shareholders may sell the common stock:

through one or more underwriters or dealers for public offering and sale,

directly to investors,

in an exchange distribution in accordance with the rules of such exchange, or

through agents.

The distribution of the common stock may also be effected in one or more of the following methods:

ordinary brokers' transactions, which may include long or short sales,

transactions involving cross or block trades, or otherwise on the Nasdaq National Market,

purchases by brokers, dealers or underwriters as principal and resale by those purchasers for their own accounts pursuant to this prospectus,

"at the market" to or through market makers or into an existing market for the common stock,

in other ways not involving market makers or established trading markets, including direct sales to purchasers or sales effected through agents,

through transactions in options, swaps or other derivatives (whether exchange-listed or otherwise), loans or pledges of the Common Shares,

pursuant to Rule 144 under the Securities Act,

offers and sales made directly by the Selling Shareholders, or other bona fide owner of the Common Shares, so long as an applicable exemption from state broker-dealer registration requirements is available in the jurisdiction of the sale, or

any combination of the foregoing, or by any other legally available means.

In addition, the Selling Shareholders or their successors in interest may enter into hedging transactions with broker-dealers who may engage in short sales of common stock in the course of hedging the positions they assume with the Selling Shareholders. The Selling Shareholders or their successors in interest may also enter into option or other transactions with broker-dealers that require the delivery by those broker-dealers of the common stock, which common stock may be resold thereafter pursuant to this prospectus. In connection with any sales, the Selling Shareholders and any brokers or dealers participating in such sales may be deemed to be underwriters within the meaning of the Securities Act of 1933 in connection with these sales, and any discounts and commissions received by them and any profit realized by them on the resale of the common stock may be deemed to be underwriting discounts and commissions under the Securities Act.

Any broker-dealer participating in such transactions as agent may receive commissions from the Selling stockholders and/or purchasers of the shares offered hereby (and, if it acts as agent for the purchaser of those shares, from that purchaser). Usual and customary brokerage fees will be paid by the Selling Shareholders. Broker-dealers may agree with the Selling Shareholders to sell a specified number of shares at a stipulated price per share, and, to the extent the broker-dealer is unable to do so acting as agent for a Selling Shareholders, to purchase as principal any

unsold shares at the price required to fulfill the broker-dealer commitment to the Selling Shareholders. Broker-dealers who acquire shares as principal may thereafter resell the shares from time to time in transactions (which may involve cross and block transactions and which may involve sales to and through other broker-dealers, including transactions of the nature described above) in the over-the-counter market, in negotiated transactions or otherwise at market prices prevailing at the time of sale or at negotiated prices, and in connection with the resales may pay to or receive from the purchasers of those shares commissions computed as described above.

We have advised the Selling Shareholders that Regulation M promulgated under the Securities Exchange Act, may apply to their sales in the market, have furnished the Selling Shareholders with a copy of this regulation and have informed the Selling Shareholders of the need for delivery of copies of this prospectus. The Selling Shareholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against liabilities, including liabilities arising under the Securities Act. Any commissions paid or any discounts or concessions allowed to any such broker-dealers, and any profits received on the resale of those shares, may be deemed to be underwriting discounts and commissions under the Securities Act if any such broker-dealers purchase shares as principal.

We have agreed to indemnify the Selling Shareholders against certain liabilities, including liabilities under the Securities Act.

We have agreed to and are paying the costs and fees of registering the Common Shares of the Selling Shareholders to meet our obligations under agreements with the Selling Shareholders, respectively. The Selling Shareholders will pay any brokerage commissions, discounts or other expenses relating to the sale of the common stock.

Any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under that rule rather than pursuant to this prospectus.

There can be no assurance that the Selling Shareholders will sell any or all of the shares of common stock offered by them hereunder.

DESCRIPTION OF SECURITIES

Our authorized capital consists of 200,000,000 shares of common stock, par value $0.0001 per share, and 20,000,000 shares of preferred stock, par value $0.0001 per share.

COMMON STOCK

We are authorized to issue 200,000,000 shares of common stock. As of May 31, 2002, 26,339,737 shares of common stock were outstanding and were held of record by approximately 640 shareholders. Holders of common stock are entitled to one vote for each share at all meetings of our shareholders. Subject to preferences of preferred stockholders, common stockholders are entitled to receive ratably dividends declared by our board. Common stockholders have no preemptive, subscription, redemption or conversion rights. If we are liquidated or dissolved, common stockholders would share equally in our assets remaining after the payment of all our liabilities and the liquidation preference of any preferred stockholders.

PREFERRED STOCK

Our Board of Directors is authorized to issue up to 20,000,000 shares of undesignated preferred stock. No shares of preferred stock have been issued. Our Board has the authority to issue preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions of the preferred stock, as well as fix the number of shares, without any further vote or action by the shareholders. Our Board, without shareholder approval, may issue preferred stock with voting and conversion rights superior to the voting rights of the common shares. The preferred stock may also decrease the amount of earnings and assets distributed to common stockholders. Issuance of preferred stock may delay or prevent a change in control.

WARRANTS

UNDERWRITERS' WARRANTS. We issued stock purchase warrants that entitle the underwriters of an offering conducted in August 2000 to purchase 300,000 shares of our common stock at a price of

$8.70 per share. These warrants are exercisable from July 26, 2001 until July 26, 2005. We have granted the underwriters certain registration rights which, if exercised, will enable them to sell the shares received upon exercise of their warrants without restriction. As of May 31, 2002, there were 297,100 underwriters' warrants outstanding.

REPRESENTATIVES' WARRANTS. We issued 200,000 warrants to the representatives of the underwriters of our initial public offering to purchase 400,000 shares of our common stock. The representatives' warrants entitle the holders to acquire up to 200,000 units, each unit consisting of a share of common stock and a warrant to purchase a share of common stock for $10.80 per unit, and are exercisable until June 3, 2002. Each warrant initially entitles the holder to purchase one share of common stock at a price of $13.50. As of May 31, 2002, there were 127,800 representatives' warrants outstanding.

NASDAQ WARRANTS. We have outstanding warrants to purchase 2,372,200 shares of our common stock that were issued in our initial public offering and are traded on the Nasdaq National Market under the symbol "AVIIW." These warrants are exercisable until September 3, 2002. We may redeem them at a price of $0.25 per warrant if the closing bid price of our common stock has been at least 200% of the warrant exercise price for 20 consecutive trading days. The initial exercise price of these warrants is $13.50.

ITC MERGER WARRANTS. We have outstanding warrants to purchase 2,116,814 shares of our common stock that were issued in connection with our acquisition of ImmunoTherapy Corporation. These warrants are exercisable until August 15, 2003. We may redeem them at a price of $0.25 per warrant if the closing bid price of our common stock has been at least 200% of the exercise price for 20 consecutive trading days and the warrants have been exercisable. These warrants are traded on the Nasdaq National Market under the symbol "AVIIZ." The initial exercise price of these warrants is $13.50.

MEDTRONIC WARRANT; OTHER MEDTRONIC PURCHASE RIGHTS. We have outstanding a warrant to purchase 3,000,000 shares of our common stock that was issued to Medtronic International, Ltd. ("MIL," formerly Medtronic Asset Management, Inc.) ("MIL Warrant") in connection with the various technology relationships entered into with Medtronic, Inc. This warrant is exercisable until June 20, 2006. We may cancel the warrant upon 190 days notice if the closing bid price of our common stock has been above $20.00 for 20 consecutive trading days, subject to MIL exercising the warrant during that period. The exercise price of this warrant is $10.00 per share. Under an Investment Agreement with MIL, MIL also has the right to purchase an additional $10,000,000 of our Common Stock upon certain technology milestones being met or waived and subject to any required governmental or shareholder approval. 352,113 shares of our Common Stock are subject to purchase at a price of $7.10 per share ($2.5 million) and the balance ($7.5 million) at the average closing sales price for the Common Stock for the five (5) days prior to the achievement or waiver of the applicable milestones.

OTHER WARRANTS. We have various other warrants outstanding to acquire 2,813,970 (subject to increase for the SugerGen, Inc. warrant as noted below) shares of our Common Stock. In 2002, we issued warrants to purchase 614,139 shares of our common stock in a private placement to fourteen investors at $10.50 per share, subject to reduction to the lowest sales price of our common stock in certain future new sales of our common stock. These warrants expire March 24, 2006. In December 1999, warrants to purchase 628,573 shares of common stock at $4.025 per share in a private placement to five institutional investors and the placement agent. As of May 31, 2002, a total of 342,857 of those 628,573 warrant shares are still outstanding and exercisable until December 20, 2004 and 71,429 are exercisable after December 20, 2000 and until December 20, 2004. In May 2000, we issued warrants to purchase 150,000 shares of our common stock as part of a consulting arrangement at $10.00 per share, of which 100,000 shares are outstanding and exercisable until May 31, 2005 and

50,000 are exercisable after January 3, 2003 and until May 31, 2005. We have also issued additional warrants to purchase 19,667 shares of our common stock. These warrants are currently exercisable and do not have a termination date. We have issued a warrant to SuperGen, Inc. to purchase up to 1,665,878 shares of our common stock at $35.625 per share. This warrant becomes exercisable on the earlier of the date the U.S. Food and Drug Administration accepts a new drug application for which products of our products or the date on which the closing price for our common stock exceeds the exercise price. The warrant will expire on April 13, 2010 unless the warrant becomes exercisable. The SuperGen, Inc. warrant provides for an increase in the number of shares of our Common Stock SuperGen may purchase to allow SuperGen on exercise to acquire ten percent (10%) of the then outstanding Common Stock.

STOCK OPTIONS

3,200,000 and 2,500,000 shares of our common stock are reserved for issuance under our 1992 Stock Incentive Plan and 2002 Equity Incentive Plan, respectively. As of May 31, 2002, we had outstanding 2,685,160 options to purchase shares under the 1992 Stock Incentive Plan

and 73,334 outstanding under the 2002 Equity Incentive Plan.

In 1998, we assumed the obligations under the 1997 Stock Option Plan of ImmunoTherapy Corporation. As of May 31, 2002, 152,868 options to purchase shares of our common stock were outstanding under the 1997 plan.

EMPLOYEE STOCK PURCHASE PLAN

A total of 250,000 shares of our common stock have been reserved for issuance under our 2000 Employee Stock Purchase Plan. As of May 31, 2002, 52,312 shares had been issued under the plan with 197,688 shares available for issuance under the plan.

RIGHTS OF CERTAIN SHAREHOLDERS TO ADDITIONAL STOCK OR REDEMPTION OF SHARES

Holders of up to 1,857,147 shares of our common stock have the right to receive additional shares of our common stock without additional payment to us if we sell shares of our common stock, or engage in similar financing transactions, at a price of less than $3.50 per share prior to December 16, 2002. If the holdings of our stock by the group that has this right will exceed 20 percent of our outstanding common stock due to the issuance of new shares, we must redeem a sufficient number of the new shares to be issued at a price equal to $3.85 per share so that the holdings of this group do not exceed 20 percent.

REGISTRATION RIGHTS

We filed a registration statement under the Securities Act covering the 2,116,814 shares of our common stock underlying the warrants that were issued in connection with our acquisition of ImmunoTherapy Corporation. Based on that registration statement, a person will be able to sell any shares received upon the exercise of the warrants without restriction.

Under a Registration Rights Agreement, dated June 22, 2000, between us and Medtronic International Ltd. ("MIL," formerly Medtronic Asset Management, Inc.) we are also required to file a registration statement under the Securities Act from time to time covering the 1,408,451 shares of common stock issued to MIL in June 2001, plus any additional shares sold to MIL under the Investment Agreement dated May 22, 2001 between us and MIL and the 3,000,000 shares of common stock covered by the MIL Warrant, if MIL exercises the warrant (collectively, the "MIL shares") and to offer certain piggyback registration rights to MIL on such shares. These shares are being registered in this offering.

Under a Registration Rights Agreement dated March 25, 2002, we are also required to file a registration statement under the Securities Act from time to time covering the 3,070,671 shares of common stock issued to fourteen investors in a private placement, plus warrants covering 614,319 shares of our Common Stock issued to the investors in that private placement.

OREGON CONTROL SHARES AND BUSINESS COMBINATION STATUTES

We are subject to the Oregon Control Share Act. The Control Share Act generally provides that a person who acquires voting stock of an Oregon corporation in a transaction that results in the acquiring person holding more than 20.0%, 33.3% or 50.0% of the total voting power of the corporation cannot vote the shares it acquires in the control share acquisition unless voting rights are accorded to the control shares by (1) a majority of each voting group entitled to vote and (2) the holders of a majority of the outstanding voting shares, excluding the control shares held by the acquiring person and shares held by our officers and inside directors. The terms acquiring person are broadly defined to include persons acting as a group. The acquiring person may, but is not required to, submit to us a statement setting forth certain information about the acquiring person and its plans with respect to us. The statement may also request that we call a special meeting of shareholders to determine whether voting rights will be accorded to the control shares. If the acquiring person does not request a special meeting of shareholders, the issue of voting rights of control shares will be considered at the next annual meeting or special meeting of shareholders. If the acquiring person's control shares are accorded voting rights and represent a majority or more of all voting power, shareholders who do not vote in favor of voting rights for the control shares will have the right to receive the appraised "fair value" of their shares which may not be less than the highest price per share by the acquiring person for the control shares. The MIL shares are not subject to these provisions. We are subject to certain provisions of the Oregon Business Corporation Act that govern business combinations between corporations and interested shareholders. The Business Combination Act generally provides that if a person or entity acquires 15% or more of the voting stock of an Oregon corporation, the corporation and the interested shareholder, or any affiliated entity of the interested shareholder, may not engage in certain business combination transactions for three years following the date the person became an interested shareholder. Business combination transactions for this purpose include (1) a merger or plan of share exchange, (2) any sale, lease, mortgage or other disposition of 10% or more of the assets of the corporation, and (3) certain transactions that result in the issuance of capital stock of the corporation to the interested shareholder. These restrictions do not apply if (1) the interested shareholder, as a result of the transaction in which such person became an interested shareholder, owns at least 85% of the outstanding voting stock of the corporation, disregarding shares owned by directors who are officers and certain employee benefit plans,

(2) the Board of Directors approves the share acquisition or business combination before the interested shareholder acquires 15% or more of the

corporation's outstanding voting stock or (3) the Board of Directors and the holders of at least two-thirds of the outstanding voting stock of the corporation, disregarding shares owned by the interested shareholders, approve the transaction after the interested shareholder acquires 15% or more of the corporation's voting stock. The MIL shares are not subject to these provisions.

TRANSFER AGENT

Our transfer agent and registrar is Mellon Investor Services, LLC.

LEGAL MATTERS

Hurley, Lynch & Re, PC, 747 SW Industrial Way, Bend, OR 97702, our attorneys, have opined that the Common Shares are duly and validly issued, fully paid and nonassessable.

EXPERTS

The audited financial statements incorporated by reference in this prospectus and elsewhere in the registration statement were audited by Arthur Andersen LLP ("Arthur Andersen"), independent public accountants, as indicated in their report with respect thereto. Since that report was issued, we changed our outside auditors to KPMG LLP. Arthur Andersen did not consent to their inclusion herein. See "Risk Factors" herein regarding the risks related to the lack of such consent.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.*

SEC Registration Fee	$	11,159
Nasdaq Listing Fee		2,000
Accountant's Fees and Expenses		5,000
Legal Fees and Expenses		5,000
Miscellaneous		
Total	$	23,159

* Represents expenses related to the distribution by the Selling Shareholders pursuant to the Prospectus prepared in accordance with the requirements of Form S-3. These expenses will be borne by the Company on behalf of the Selling Shareholders. All amounts are estimates except for the SEC registration fee and the Nasdaq listing fees.

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

The Company's Articles of Incorporation provide for indemnification of the officers and directors of the Company to the fullest extent permitted by law. The Oregon Business Corporation Act, permits a corporation to limit, under certain circumstances, a director's liability for monetary damages in actions brought by the corporation or its stockholders. As an Oregon corporation, the Company is subject to the OBCA and the exculpation from liability and indemnification provision contained therein. Pursuant to Section 60.047(2)(d) of the OBCA, Article II of the Company's Fifth Restated Articles of Incorporation (the "Articles") eliminates the liability of the Company's directors to the

Company or its stockholders for monetary damages, except for any liability related to breach of the duty of loyalty, actions not in good faith and certain other liabilities.

Section 60.387, ET SEQ., of the OBCA allows corporations to indemnify their directors and officers against liability where the director or officer has acted in good faith and with a reasonable belief that actions taken were in the best interests of the corporation or at least not adverse to the corporation's best interests and, if in a criminal proceeding, the individual had not reasonable cause to believe the conduct in question was unlawful. Under the OBCA, corporations may not indemnify against liability in connection with a claim by or in the right of the corporation but may indemnify against the reasonable expenses associated with such claims. Corporations may not indemnify against breached of the duty of loyalty. The OBCA mandates indemnification against all reasonable expenses incurred in the successful defense of any claim made or threatened whether or not such claims was by or in the right of the corporation. Finally, a court may order indemnification if it determines that the director or officer is fairly and reasonably entitled to indemnification in view of all the relevant circumstances whether or not the director or officer met the good faith and reasonable belief standards or conduct set out in the statute.

The OBCA also provides that the statutory indemnification provisions are not deemed exclusive of any other rights to which directors or officers may be entitled under a corporation's articles of incorporation or bylaws, any agreement, general or specific action of the board of directors, vote of stockholders or otherwise.

The Company's Articles also provide for the elimination of liability of directors for monetary damages to the full extent permitted by the Oregon Business Corporations Act.

The Company has entered into indemnification agreements with its directors and certain of its officers.

ITEM 16. EXHIBITS.

Number	Exhibits
4.1	Investment Agreement, dated May 22, 2001, between Medtronic Asset Management, Inc. and AVI BioPharma, Inc.(1)
4.2	Registration Rights Agreement, dated June 20, 2001, between Medtronic Asset Management, Inc. and AVI BioPharma, Inc.(1)
4.3	Warrant for AVI BioPharma, Inc. Common Stock, dated June 20, 2001, and issued to Medtronic Asset Management, Inc.(1)
4.4	License and Development Agreement dated June 20, 2001 between Medtronic, Inc. and AVI BioPharma, Inc. (1)
4.5	Supply Agreement dated June 20, 2001 between Medtronic, Inc. and AVI BioPharma, Inc. (1)
5.1	Opinion of Hurley, Lynch & Re, P.C.
23.1	Consent of Hurley, Lynch & Re, P.C. (included in Exhibit 5.1)
24.1	Power of Attorney

(1) Incorporated by reference to Exhibits to Amendment No. 1 to Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2001, and filed with the Securities and Exchange Commission April 16, 2002.

ITEM 17. UNDERTAKINGS.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material changes to such information in this registration statement.

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

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remains unsold at the termination of the offering.

(4) That, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities shall be deemed to be in the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification is against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Amendment No. 2 to Registration Statement on Form S-3 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Portland, State of Oregon, on June 12, 2002.

AVI BIOPHARMA, INC.

By: /s/ DENIS R. BURGER

Denis R. Burger, Ph.D.
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities on the date indicated.

Signature	Title

Signature	Title
/s/ DENIS R. BURGER Denis R. Burger, Ph.D.	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)
/s/ ALAN P. TIMMINS Alan P. Timmins	President, Chief Operating Officer and Director
/s/ MARK M. WEBBER Mark M. Webber	Chief Financial Officer and Chief Information Officer (Principal Financial and Accounting Officer)
* Patrick L. Iversen, Ph.D.	Senior Vice President of Research and Development and Director
* Dwight D. Weller, Ph.D.	Senior Vice President of Chemistry and Manufacturing and Director
* Andrew J. Ferrara	Director
* Bruce L.A. Carter, Ph.D.	Director

* John W. Fara, Ph.D.	Director
* James B. Hicks, Ph.D.	Director
* Joseph Rubinfeld, Ph.D.	Director

*By: /s/ ALAN P. TIMMINS

Alan P. Timmins,
as Attorney-in-fact

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