ANTARES PHARMA INC Form S-2 March 31, 2004 Table of Contents

As filed with the Securities and Exchange Commission on March 31, 2004

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-2 REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Antares Pharma, Inc.

(Exact Name of Registrant as Specified in its Charter)

Minnesota (State or Other Jurisdiction of

41-1350192 (I.R.S. Employer

Incorporation or Organization)

Identification Number)

707 Eagleview Boulevard

Suite 414

Exton, PA 19341

ph. (610) 458-6200

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant s Principal Executive Offices)

	Roger G. Harrison,	Ph.D.		
	Chief Executive Of	ficer		
	Antares Pharma, l	Inc.		
	707 Eagleview Boule	evard		
	Suite 414			
	Exton, PA 1934	1		
	ph. (610) 458-620	00		
(Name, Address, Including Zip Coo	de, and Telephone Number	, Including Area Code, of	Agent for Service)	
Approximate date of commencement of proposed sale to the p	ublic: From time to time after	er this registration statement	becomes effective.	
If any of the securities being registered on this form are to be check the following box. x	offered on a delayed or conti	nuous basis pursuant to Rul	e 415 under the Securitie	s Act of 1933,
If the registrant elects to deliver its latest annual report to secur check the following box. x	rity holders, or a complete an	nd legible facsimile thereof,	pursuant to Item 11(a)(1) of this form,
If this form is filed to register additional securities for an offer Act registration statement number of the earlier effective regis			eck the following box an	d list the Securities
If this form is a post-effective amendment filed pursuant to Ru statement number of the earlier effective registration statement			box and list the Securities	s Act registration
If this form is a post-effective amendment filed pursuant to Ru statement number of the earlier effective registration statement		es Act, check the following	box and list the Securitie	s Act registration
If delivery of the prospectus is expected to be made pursuant to	o Rule 434, please check the	following box. "		
CALC	ULATION OF REGIST	TRATION FEE		
Title of Shares	Amount To Be	Proposed	Proposed	Amount of
To Be Registered	Registered (1)	Maximum	Maximum	Registration
		Offering Price	Aggregate	Fee

		Per Sl	nare (2)	Offering Price	
Common Stock, par value \$.01 per share	21,701,994	\$	1.44	\$ 31,250,872	\$ 3,960

- (1) Includes shares of common stock which may be offered pursuant to this registration statement, certain of which are issuable upon the exercise of warrants. The number of shares of common stock registered hereunder represents a good faith estimate by the Company of the number of shares of common stock issued and issuable upon exercise of such warrants. This registration statement shall also cover any additional shares of common stock which become issuable by reason of any stock dividend, stock split, recapitalization or other similar transaction which results in an increase in the number of the outstanding shares of common stock in accordance with Rule 416.
- (2) This estimate is made pursuant to Rule 457(c) of the Securities Act of 1933, as amended, solely for purposes of determining the registration fee. The above calculation is based on the average of the high and low sales price of the Registrant s common stock as reported on the OTC Bulletin Board on Tuesday, March 30, 2004.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant files 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, as amended, or until this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. The selling securityholders may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MARCH 31, 2004

PRELIMINARY PROSPECTUS

21,701,994 SHARES OF

ANTARES PHARMA, INC.

COMMON STOCK

This prospectus relates to the offering of 21,701,994 shares of our common stock which may be sold from time to time by the selling shareholders named in this prospectus.

The shares of our common stock are being registered to permit the selling shareholders to sell the shares from time to time in the public market. The shareholders may sell the shares in negotiated transactions or otherwise, at market prices prevailing at the time of sale or at negotiated prices. The timing and amount of any sale are within the sole discretion of the selling shareholders. In addition, the shares may be offered from time to time through ordinary brokerage transactions, directly to market makers of our shares or through any other means described in the section entitled Plan of Distribution beginning on page 21.

We will not receive any of the proceeds from the sale of the shares although we have paid the expenses of preparing this prospectus and the related registration expenses.

Our common stock is quoted on the OTC Bulletin Board under the symbol ANTR. The last reported sales price of our common stock as reported on the OTC Bulletin Board on March 30, 2004 was \$1.41 per share.

BEFORE PURCHASING ANY OF THE SHARES COVERED BY THIS PROSPECTUS, YOU SHOULD CAREFULLY READ AND
CONSIDER THE RISK FACTORS AND UNCERTAINTIES DISCUSSED IN THE SECTION ENTITLED <u>RISK FACTOR</u> S
BEGINNING ON PAGE 3. YOU SHOULD BE PREPARED TO ACCEPT ANY AND ALL OF THE RISKS ASSOCIATED WITH
PURCHASING THE SHARES, INCLUDING A LOSS OF YOUR INVESTMENT.

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

The date of this prospectus is

, 2004.

TABLE OF CONTENTS

Forward Looking Statements	ii
Summary	1
Risk Factors	3
Use of Proceeds	13
Selling Shareholders	13
Certain Information About the Selling Shareholders	21
Plan of Distribution	21
Description of Securities	25
Legal Matters	26
Experts .	26
Information with Respect to the Registrant	26
Incorporation by Reference	26
Indemnification	27
Where You Can Find More Information	27

i

FORWARD LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements within the meaning of the securities laws. These forward-looking statements are subject to a number of risks and uncertainties, many of which are beyond our control. All statements other than statements of historical facts included or incorporated by reference in this prospectus regarding our strategy, future operations, financial position, estimated revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. When used in this prospectus, the words will, believe, anticipate, intend, estimate, expect, project and similar expressions are intended to ide forward-looking statements, although not all forward-looking statements contain such identifying words. All forward-looking statements speak only as of the date of this prospectus. Neither we nor the selling shareholders undertake any obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise. Although we believe that our plans, intentions and expectations reflected in or suggested by the forward-looking statements that we make in this prospectus are reasonable, we can give no assurance that such plans, intentions or expectations will be achieved. The cautionary statements qualify all forward-looking statements attributable to us or persons acting on our behalf.

This prospectus is part of a registration statement on Form S-2 filed with the SEC under the Securities Act. This prospectus does not contain all of the information set forth in the registration statement. You should read the registration statement for further information about our company and the common stock.

ii

SUMMARY

Introduction

The following summary does not contain all of the information that may be important to you. You should read the entire prospectus, including the financial statements and other information incorporated by reference in this prospectus, before making an investment decision.

The terms company, Antares, registrant, we, us, and our in this prospectus refer to Antares Pharma, Inc.

The Offering

This prospectus relates to the offering of 21,701,994 shares of our common stock which may be sold from time to time by the selling shareholders named in this prospectus. Certain of these selling shareholders purchased our common stock and warrants to purchase shares of our common stock in three separate private placements that closed in February and March 2004. The remaining selling shareholders received shares of our common stock or warrants to purchase shares of our common stock pursuant to investor relations agreements. The shares of our common stock are being registered to permit the selling shareholders to sell the shares from time to time in the public market. The selling shareholders will determine the timing and amount of any sale, and we will not receive any of the proceeds from the sale of the shares.

The Company and our Business

We develop, manufacture and market pressure assisted injection devices, called jet injectors, that allow people to self-inject drugs without using a conventional needle. Our needle-free injectors utilize a small spring-action device and attached disposable plastic syringes to hold a liquid drug. The drug is drawn up into the syringe through a small hole at the end. When the syringe is held against the body and the spring is released, a piston drives the fluid stream into the tissues beneath the skin. Our mini-needle injector utilizes a very small needle that is covered so that the user never sees it during the process of injection. The needle is used to break the skin, and the device then uses low pressure to accelerate the liquid stream into the tissue underneath the needle. Although our needle-free injector is our major product, we have also developed topical gel formulations that allow delivery of drugs across the skin.

We currently outsource the assembly of our devices and related products. However, we remain responsible for the release of our devices to the market. We specify procedures and processes to be utilized by the assembler, and any changes to such procedures and processes require our prior approval. We will not release any products to the market without first reviewing the assembler s testing of the product or conducting our own tests on the product.

We operate in the specialized drug delivery sector of the pharmaceutical industry. Companies in this sector generally bring technology and know-how in the area of drug formulation (in our case, injection devices and topical gels) to pharmaceutical manufacturers through licensing and development agreements. Pharmaceutical manufacturers then use the technology licensed to them to offer alternative methods of administering their drug formulations. We have negotiated and executed licensing relationships for use of our reusable needle-free devices with

human growth hormone in Europe and Asia, for hormone replacement therapy in the United States, Europe and other parts of the world and for diabetes and obesity therapy in the world. In addition, on a limited basis, we continue to sell our reusable needle-free devices directly for patient self-administration of insulin in the U.S. and certain other markets.

On January 31, 2001, we completed a business combination to acquire the three operating subsidiaries of Permatec Holding AG, headquartered in Basel, Switzerland. Our company (formerly called Medi-Ject) was

1

focused on delivery of drugs across the skin using jet injectors, and Permatec specialized in delivery of drugs across the skin using transdermal patch and gel technologies. Given that both groups were focused on delivery of drugs across the skin, but with a focus on different sectors, we believed that a business combination would be attractive to both pharmaceutical partners and to our shareholders. The business combination transaction with the Permatec subsidiaries was accounted for as a reverse merger because upon the closing of the transaction, Permatec and its principal, Dr. Jacques Gonella, owned in excess of 67% of the outstanding shares of our common stock. The historical financial statements of Permatec thus became those of the company. Upon consummation of the transaction, the acquired Permatec subsidiaries were renamed Antares Pharma AG, Antares Pharma IPL AG and Antares Pharma NV, and we changed our name to Antares Pharma, Inc.

Our principal executive offices are located at 707 Eagleview Boulevard, Suite 414, Exton, Pennsylvania 19341, and our telephone number is (610) 458-6200. We have wholly-owned subsidiaries in Switzerland (Antares Pharma AG and Antares Pharma IPL AG) and the Netherlands Antilles (Antares Pharma NV). Our United States research and manufacturing facilities are located in Minneapolis, Minnesota.

2

RISK FACTORS

You should consider carefully the following information about risks, together with the other information contained in this prospectus and in the documents referred to below in Where You Can Find More Information, before you decide whether to buy our common stock. Additional risks and uncertainties not known to us or that we now believe to be not material could also impair our business. If any of the following risks actually occur, our business, results of operations and financial condition could suffer significantly. As a result, the market price of our common stock could decline and you could lose all of your investment.

Risks Related to Our Business

We have incurred significant losses to date, and there is no guarantee that we will ever become profitable

We had negative working capital of (\$2,972,057) at December 31, 2002 and working capital of \$615,371 at December 31, 2003. We incurred net losses of (\$11,608,765) and (\$32,817,964) in the fiscal years ended 2002 and 2003, respectively. In addition, we have accumulated aggregate net losses from the inception of business through December 31, 2003 of (\$74,126,619). The costs for research and product development of our drug delivery technologies along with marketing and selling expenses and general and administrative expenses have been the principal causes of our losses. Our results for 2003 included noncash charges of approximately \$24,000,000 related to the restructuring of our capital structure and warrants that were classified as debt under generally accepted accounting principles. In the third quarter of 2003, we amended all of our warrants that were classified as debt to cause the warrants to be accounted for as equity.

We recently completed three private placements in February and March 2004 in which we received aggregate proceeds of \$15,120,000. We believe that the combination of these equity financings and projected product sales and product development and license revenues will provide us with sufficient funds to support operations until we achieve profitability and are able to generate our own working capital.

Long-term capital requirements will depend on numerous factors, including, but not limited to, the status of collaborative arrangements, the progress of research and development programs and the receipt of revenues from sales of products. Our ability to achieve and/or sustain profitable operations depends on a number of factors, many of which are beyond our control. These factors include, but are not limited to, the following:

the demand for our technologies from current and future biotechnology and pharmaceutical partners;

our ability to manufacture products efficiently and with the required quality;

our ability to increase manufacturing capacity to allow for new product introductions;

the level of product competition and of price competition;

our ability to develop additional commercial applications for our products;
our ability to obtain regulatory approvals;
our ability to control costs; and
general economic conditions.
We depend on a limited number of customers for the majority of our revenue, and the loss of any one of these customers could substantially reduce our revenue
During fiscal 2003, we derived approximately 62% and 14% of our revenue, respectively, from the following two customers:
Ferring BV
BioSante Pharmaceuticals, Inc.
3

The loss of either of these customers would cause our revenues to decrease significantly, increase our continuing losses from operations and, ultimately, could require us to cease operating. If we cannot broaden our customer base, we will continue to depend on a few customers for the majority of our revenues. Additionally, if we are unable to negotiate favorable business terms with these customers in the future, our revenues and gross profits may be insufficient to allow us to achieve and/or sustain profitability or continue operations.

If we or our third-party manufacturer are unable to supply Ferring BV with our devices pursuant to our current license agreement with Ferring, Ferring would own a fully paid up license for certain of our intellectual property

Pursuant to our license agreement with Ferring BV, we licensed certain of our intellectual property related to our needle-free injection devices, including a license that allows Ferring to manufacture our devices on its own for use with its human growth hormone product. This license becomes effective if we are unable to continue to supply product to Ferring under our current supply agreement. In accordance with the license agreement, we entered into a manufacturing agreement with a third party to manufacture our devices for Ferring. If we or this third party are unable to meet our obligations to supply Ferring with our devices, Ferring would own a fully paid up license to manufacture our devices and to use and exploit our intellectual property in connection with Ferring s human growth hormone product. In such event, we would no longer receive royalty revenues from Ferring, and we would no longer be able to license such technology to other parties for use in the field of human growth hormone therapy.

We have limited manufacturing experience and may experience manufacturing difficulties related to the use of new materials and procedures, which could increase our production costs and, ultimately, decrease our profits

Our past assembly, testing and manufacturing experience for certain of our technologies has involved the assembly of products from machined stainless steel and composite components in limited quantities. Our planned future drug delivery technologies necessitate significant changes and additions to our manufacturing and assembly process to accommodate new components. These systems must be manufactured in compliance with regulatory requirements, in a timely manner and in sufficient quantities while maintaining quality and acceptable manufacturing costs. In the course of these changes and additions to our manufacturing and production methods, we may encounter difficulties, including problems involving yields, quality control and assurance, product reliability, manufacturing costs, existing and new equipment, component supplies and shortages of personnel, any of which could result in significant delays in production. Additionally, in February 2003, we entered into a manufacturing agreement under which a third party will assemble certain component parts of our MJ6B and MJ7 devices. There can be no assurance that this third-party manufacturer will be able to meet these regulatory requirements or our own quality control standards. Therefore, there can be no assurance that we will be able to successfully produce and manufacture our drug delivery technology. Any failure to do so would negatively impact our business, financial condition and results of operations.

Our products have achieved only limited acceptance by patients and physicians, which continues to have a negative effect on our revenue

Our business ultimately depends on patient and physician acceptance of our needle-free injectors, gels and our other drug delivery technologies as an alternative to more traditional forms of drug delivery, including injections using a needle and transdermal patch products. To date, our device technologies have achieved only limited acceptance from such parties. The degree of acceptance of our drug delivery systems depends on a number of factors. These factors include, but are not limited to, the following:

advantages over alternative drug delivery systems or similar products from other companies;

demonstrated clinical efficacy, safety and enhanced patient compliance;

cost-effectiveness;

convenience and ease of use of injectors and transdermal gels; and

marketing and distribution support.

4

Physicians may refuse to prescribe products incorporating our drug delivery technologies if they believe that the active ingredient is better administered to a patient using alternative drug delivery technologies, that the time required to explain use of the technologies to the patient would not be offset by advantages, or they believe that the delivery method will result in patient noncompliance. Factors such as patient perceptions that a gel is inconvenient to apply or that devices do not deliver the drug at the same rate as conventional drug delivery methods may cause patients to reject our drug delivery technologies. Because only a limited number of products incorporating our drug delivery technologies are commercially available, we cannot yet fully assess the level of market acceptance of our drug delivery technologies.

A 2002 National Institute of Health (NIH) study questioned the safety of hormone replacement therapy for menopausal women, and our female hormone replacement therapy business may suffer as a result

In July 2002, the NIH halted a long-term study being conducted on oral female hormone replacement therapy (HRT) using a combination of estradiol and progestin because the study showed an increased risk of breast cancer, heart disease and blood clots in women taking the combination therapy. The arm of the study using estrogen alone was stopped in March 2004 after the NIH concluded that the benefits of estrogen did not outweigh the stroke risk for women in this trial. The halted study looked at only one brand of oral combined HRT and of estrogen, and there is no information on whether brands with different levels of hormones would carry the same risk. In January 2003, the FDA announced that it would require new warnings on the labels of HRT products, and it advised patients to consult with their physicians about whether to continue treatment with continuous combined HRT and to limit the period of use to that required to manage post-menopausal vasomotor symptoms only. Subsequently, additional analysis from the NIH study has suggested a slight increase in the risk of cognitive dysfunction developing in patients on long-term combined HRT. Other HRT studies have found potential links between HRT and an increased risk of dementia and asthma. These results and recommendations impacted the use of HRT, and product sales have diminished significantly. We cannot yet assess the impact any of the studies results may have on our contracts for our transdermal gel products designed for HRT. We also cannot predict whether our alternative route of transdermal administration of HRT products will carry the same risk as the oral products used in the study.

If transdermal gels do not achieve market acceptance, we may be unable to achieve profits from this technology

Because transdermal gels are a newer, less understood method of drug delivery, our potential consumers have little experience with manufacturing costs or pricing parameters. Our assumption of higher value may not be shared by the consumer. To date, transdermal gels have gained successful entry into only a limited number of markets. There can be no assurance that transdermal gels will ever gain market acceptance beyond these markets sufficient to allow us to achieve and/or sustain profitable operations in this product area.

We rely on third parties to supply components for our products, and any failure to retain relationships with these third parties could negatively impact our ability to manufacture our products

Certain of our technologies contain a number of customized components manufactured by various third parties. Regulatory requirements applicable to medical device and transdermal patch manufacturing can make substitution of suppliers costly and time-consuming. In the event that we could not obtain adequate quantities of these customized components from our suppliers, there can be no assurance that we would be able to access alternative sources of such components within a reasonable period of time, on acceptable terms or at all. The unavailability of adequate quantities, the inability to develop alternative sources, a reduction or interruption in supply or a significant increase in the price of components could have a material adverse effect on our ability to manufacture and market our products.

Table of Contents

15

We may be unable to successfully expand into new areas of drug delivery technology, which could negatively impact our business as a whole

We intend to continue to enhance our current technologies. Even if enhanced technologies appear promising during various stages of development, we may not be able to develop commercial applications for them because

the potential technologies may fail clinical studies;

we may not find a pharmaceutical company to adopt the technologies;

it may be difficult to apply the technologies on a commercial scale;

the technologies may not be economical to market; or

we may not receive necessary regulatory approvals for the potential technologies.

We have not yet completed research and development work or obtained regulatory approval for any technologies for use with any drugs other than insulin, human growth hormone and estradiol. There can be no assurance that any newly developed technologies will ultimately be successful or that unforeseen difficulties will not occur in research and development, clinical testing, regulatory submissions and approval, product manufacturing and commercial scale-up, marketing, or product distribution related to any such improved technologies or new uses. Any such occurrence could materially delay the commercialization of such improved technologies or new uses or prevent their market introduction entirely.

As health insurance companies and other third-party payors increasingly challenge the products and services for which they will provide coverage, our individual consumers may be unable to afford to use our products, which could substantially reduce our revenues

Our injector device products are currently sold in the European Community (EC) and in the United States for use with human growth hormone or insulin. In the case of human growth hormone, our products are provided to users at no cost by the drug manufacturer. In the United States the injector products are only available for use with insulin.

Although it is impossible for us to identify the amount of sales of our products that our customers will submit for payment to third-party insurers, at least some of these sales may be dependent in part on the availability of adequate reimbursement from these third-party healthcare payors. Currently, insurance companies and other third-party payors reimburse the cost of certain technologies on a case-by-case basis and may refuse reimbursement if they do not perceive benefits to a technology s use in a particular case. Third-party payors are increasingly challenging the pricing of medical products and services, and there can be no assurance that such third-party payors will not in the future increasingly reject claims for coverage of the cost of certain of our technologies. Insurance and third-party payor practice vary from country to country, and changes in practices could negatively affect our business if the cost burden for our technologies were shifted more to the patient. Therefore, there can be no assurance that adequate levels of reimbursement will be available to enable us to achieve or maintain market acceptance of our technologies or maintain price levels sufficient to realize profitable operations. There is also a possibility of increased government control or influence over a broad range of healthcare expenditures in the future. Any such trend could negatively impact the market for our drug delivery technologies.

The loss of any existing licensing agreements or the failure to enter into new licensing agreements could substantially affect our revenue

Our business plans require us to enter into license agreements with pharmaceutical and biotechnology companies covering the development, manufacture, use and marketing of drug delivery technologies with specific drug therapies. Under these arrangements, the partner company typically assists us in the development of systems for such drug therapies and collect or sponsor the collection of the appropriate data for submission for

6

regulatory approval of the use of the drug delivery technology with the licensed drug therapy. Our licensees will also be responsible for distribution and marketing of the technologies for these drug therapies either worldwide or in specific territories. We are currently a party to a number of such agreements, all of which are currently in varying stages of development. We may not be able to meet future milestones established in our agreements (such milestones generally being structured around satisfactory completion of certain phases of clinical development, regulatory approvals and commercialization of our product) and thus, would not receive the fees expected from such arrangements. Moreover, there can be no assurance that we will be successful in executing additional collaborative agreements or that existing or future agreements will result in increased sales of our drug delivery technologies. In such event, our business, results of operations and financial condition could be adversely affected, and our revenues and gross profits may be insufficient to allow us to achieve and/or sustain profitability. As a result of our collaborative agreements, we are dependent upon the development, data collection and marketing efforts of our licensees. The amount and timing of resources such licensees devote to these efforts are not within our control, and such licensees could make material decisions regarding these efforts that could adversely affect our future financial condition and results of operations. In addition, factors that adversely impact the introduction and level of sales of any drug covered by such licensing arrangements, including competition within the pharmaceutical and medical device industries, the timing of regulatory or other approvals and intellectual property litigation, may also negatively affect sales of our drug delivery technology.

The failure of any of our third-party licensees to develop, obtain regulatory approvals for, market, distribute and sell our products as planned may result in us not meeting revenue and profit targets

Pharmaceutical company partners help us develop, obtain regulatory approvals for, manufacture and sell our products. If one or more of these pharmaceutical company partners fail to pursue the development or marketing of the products as planned, our revenues and profits may not reach expectations or may decline. We may not be able to control the timing and other aspects of the development of products because pharmaceutical company partners may have priorities that differ from ours. Therefore, commercialization of products under development may be delayed unexpectedly. We do not intend to have a direct marketing channel to consumers for our drug delivery technologies except through current distributor agreements in the United States for our insulin delivery device. Therefore, the success of the marketing organizations of the pharmaceutical company partners, as well as the level of priority assigned to the marketing of the products by these entities, which may differ from our priorities, will determine the success of the products incorporating our technologies. Competition in this market could also force us to reduce the prices of our technologies below currently planned levels, which could adversely affect our revenues and future profitability.

Our business could suffer if we are unable to effectively compete with our competitors technologies

Additional competitors in the needle-free injector market, some with greater resources and experience than us, may enter the market, as there is an increasing recognition of a need for less invasive methods of injecting drugs. Similarly, several companies are competing in the transdermal gel market. Our success depends, in part, upon maintaining a competitive position in the development of products and technologies in a rapidly evolving field. If we cannot maintain competitive products and technologies, our current and potential pharmaceutical company partners may choose to adopt the drug delivery technologies of our competitors. Drug delivery companies that compete with our technologies include Bioject Medical Technologies, Inc., Bentley Pharmaceuticals, Inc., Cellegy Pharmaceuticals, Inc., Laboratories Besins-Iscovesco, MacroChem Corporation, NexMed, Inc. and Novavax, Inc., along with other companies. We also compete generally with other drug delivery, biotechnology and pharmaceutical companies engaged in the development of alternative drug delivery technologies or new drug research and testing. Many of these competitors have substantially greater financial, technological, manufacturing, marketing, managerial and research and development resources and experience than we do, and, therefore, represent significant competition.

In general, injection is used only with drugs for which other drug delivery methods are not possible, in particular with biopharmaceutical proteins (drugs derived from living organisms, such as insulin and human

7

growth hormone) that cannot currently be delivered orally, transdermally (through the skin) or pulmonarily (through the lungs). Transdermal patches and gels are also used for drugs that cannot be delivered orally or where oral delivery has other limitations (such as high first pass drug metabolism, meaning that the drug dissipates quickly in the digestive system and, therefore, requires frequent administration). Many companies, both large and small, are engaged in research and development efforts on less invasive methods of delivering drugs that cannot be taken orally. The successful development and commercial introduction of such a non-injection technique would likely have a material adverse effect on our business, financial condition, results of operations and general prospects.

Competitors may succeed in developing competing technologies or obtaining governmental approval for products before we do. Competitors products may gain market acceptance more rapidly than our products, or may be priced more favorably than our products. Developments by competitors may render our products, or potential products, noncompetitive or obsolete.

Although we have applied for, and have received, several patents, we may be unable to protect our intellectual property, which would negatively affect our ability to compete

Our success depends, in part, on our ability to obtain and enforce patents for our products, processes and technologies and to preserve our trade secrets and other proprietary information. If we cannot do so, our competitors may exploit our innovations and deprive us of the ability to realize revenues and profits from our developments.

Currently, we have been granted 27 patents in the United States and 35 patents in other countries. We have also made application for a total of 100 patents, both in the United States and other countries. Any patent applications we may have made or may make relating to inventions for our actual or potential products, processes and technologies may not result in patents being issued or may result in patents that provide insufficient or incomplete coverage for our inventions. Our current patents may not be valid or enforceable and may not protect us against competitors that challenge our patents, obtain their own patents that may have an adverse effect on our ability to conduct business, or are able to otherwise circumvent our patents. Further, we may not have the necessary financial resources to enforce or defend our patents or patent applications.

To protect our trade secrets and proprietary technologies and processes, we rely, in part, on confidentiality agreements with employees, consultants and advisors. These agreements may not provide adequate protection for our trade secrets and other proprietary information in the event of any unauthorized use or disclosure, or if others lawfully and independently develop the same or similar information.

Others may bring infringement claims against us, which could be time-consuming and expensive to defend

Third parties may claim that the manufacture, use or sale of our drug delivery technologies infringe their patent rights. If such claims are asserted, we may have to seek licenses, defend infringement actions or challenge the validity of those patents in court. If we cannot obtain required licenses, are found liable for infringement or are not able to have these patents declared invalid, we may be liable for significant monetary damages, encounter significant delays in bringing products to market or be precluded from participating in the manufacture, use or sale of products or methods of drug delivery covered by the patents of others. We may not have identified, or be able to identify in the future, United States or foreign patents that pose a risk of potential infringement claims.

If the pharmaceutical companies to which we license our technologies lose their patent protection or face patent infringement claims for their drugs, we may not realize our revenue or profit plan

The drugs to which our drug delivery technologies are applied are generally the property of the pharmaceutical companies. Those drugs may be the subject of patents or patent applications and other forms of protection owned by the pharmaceutical companies or third parties. If those patents or other forms of protection expire, become ineffective or are subject to the control of third parties, sales of the drugs by the collaborating

8

Table of Contents

pharmaceutical company may be restricted or may cease. Our expected revenues, in that event, may not materialize or may decline.

We or our licensees may incur significant costs seeking approval for our products, which could delay the realization of revenue and, ultimately, decrease our revenues from such products

The design, development, testing, manufacturing and marketing of pharmaceutical compounds, medical nutrition and diagnostic products and medical devices are subject to regulation by governmental authorities, including the FDA and comparable regulatory authorities in other countries. The approval process is generally lengthy, expensive and subject to unanticipated delays. Currently, we, along with our partners, are actively pursuing marketing approval for a number of products from regulatory authorities in other countries and anticipate seeking regulatory approval from the FDA for products developed pursuant to our agreement with BioSante. Our revenue and profit will depend, in part, on the successful introduction and marketing of some or all of such products by our partners or us. There can be no assurance as to when or whether such approvals from regulatory authorities will be received.

Applicants for FDA approval often must submit extensive clinical data and supporting information to the FDA. Varying interpretations of the data obtained from pre-clinical and clinical testing could delay, limit or prevent regulatory approval of a drug product. Changes in FDA approval policy during the development period, or changes in regulatory review for each submitted new drug application also may cause delays or rejection of an approval. Even if the FDA approves a product, the approval may limit the uses or indications for which a product may be marketed, or may require further studies. The FDA also can withdraw product clearances and approvals for failure to comply with regulatory requirements or if unforeseen problems follow initial marketing.

In other jurisdictions, we, and the pharmaceutical companies with whom we are developing technologies, must obtain required regulatory approvals from regulatory agencies and comply with extensive regulations regarding safety and quality. If approvals to market the products are delayed, if we fail to receive these approvals, or if we lose previously received approvals, our revenues may not materialize or may decline. We may not be able to obtain all necessary regulatory approvals. We may be required to incur significant costs in obtaining or maintaining regulatory approvals.

Our business could be harmed if we fail to comply with regulatory requirements and, as a result, are subject to sanctions

If we, or pharmaceutical companies with whom we are developing technologies, fail to comply with applicable regulatory requirements, the pharmaceutical companies, and we, may be subject to sanctions, including the following:

fines;
product seizures or recalls;

warning letters;

injunctions;

refusals to permit products to be imported into or exported out of the applicable regulatory jurisdiction;	
total or partial suspension of production;	
withdrawals of previously approved marketing applications; or	
criminal prosecutions.	
Our revenues may be limited if the marketing claims asserted about our products are not approved	

Once a drug product is approved by the FDA, the Division of Drug Marketing, Advertising and Communication, the FDA s marketing surveillance department within the Center for Drugs, must approve

9

marketing claims asserted by our pharmaceutical company partners. If a pharmaceutical company partner fails to obtain from the Division of Drug Marketing acceptable marketing claims for a product incorporating our drug technologies, our revenues from that product may be limited. Marketing claims are the basis for a product slabeling, advertising and promotion. The claims the pharmaceutical company partners are asserting about our drug delivery technologies, or the drug product itself, may not be approved by the Division of Drug Marketing.

Product liability claims related to participation in clinical trials or the use or misuse of our products could prove to be costly to defend and could harm our business reputation

The testing, manufacturing and marketing of products utilizing our drug delivery technologies may expose us to potential product liability and other claims resulting from their use. If any such claims against us are successful, we may be required to make significant compensation payments. Any indemnification that we have obtained, or may obtain, from contract research organizations or pharmaceutical companies conducting human clinical trials on our behalf may not protect us from product liability claims or from the costs of related litigation. Similarly, any indemnification we have obtained, or may obtain, from pharmaceutical companies with whom we are developing drug delivery technologies may not protect us from product liability claims from the consumers of those products or from the costs of related litigation. If we are subject to a product liability claim, our product liability insurance may not reimburse us, or may not be sufficient to reimburse us, for any expenses or losses that may have been suffered. A successful product liability claim against us, if not covered by, or if in excess of our product liability insurance, may require us to make significant compensation payments, which would be reflected as expenses on our statement of operations. Adverse claim experience for our products or licensed technologies or medical device, pharmaceutical or insurance industry trends may make it difficult for us to obtain product liability insurance or we may be forced to pay very high premiums, and there can be no assurance that insurance coverage will continue to be available on commercially reasonable terms or at all.

Our business may suffer if we lose certain key officers or employees

The success of our business is materially dependent upon the continued services of certain of our key officers and employees. The loss of such key personnel could have a material adverse effect on our business, operating results or financial condition. There can be no assurance that we will be successful in retaining key personnel.

We are involved in international markets, and this subjects us to additional business risks

We have offices and a research facility in Basel, Switzerland, and we also license and distribute our products in the European Community and the United States. These geographic localities provide economically and politically stable environments in which to operate. However, in the future, we intend to introduce products through partnerships in other countries. As we expand our geographic market, we fill face additional ongoing complexity to our business and may encounter the following additional risks:

increased complexity and costs of managing international operations;

protectionist laws and business practices that favor local companies;

dependence on local vendors;

multiple, conflicting and changing governmental laws and regulations;
difficulties in enforcing our legal rights;
reduced or limited protections of intellectual property rights; and
political and economic instability.

A significant portion of our international revenues is denominated in foreign currencies. An increase in the value of the U.S. dollar relative to these currencies may make our products more expensive and, thus, less competitive in foreign markets.

10

Geopolitical, economic and military conditions, including terrorist attacks and other acts of war, may materially and adversely affect the markets on which our common stock trades, the markets in which we operate, our operations and our profitability

Terrorist attacks, such as those that occurred on September 11, 2001, and other acts of war, and any response to them, may lead to armed hostilities and such developments would likely cause instability in financial markets. Armed hostilities and terrorism may directly impact our facilities, personnel and operations which are located in the United States and Switzerland, as well as those of our clients. Furthermore, severe terrorist attacks or acts of war may result in temporary halts of commercial activity in the affected regions, and may result in reduced demand for our products. These developments could have a material adverse effect on our business and the trading price of our common stock.

Risks Related to our Common Stock

On July 1, 2003, our stock was delisted from Nasdaq for failure to comply with Nasdaq s listing standards, and investors may perceive our listing on the OTC Bulletin Board as less desirable

On July 1, 2003, our stock was delisted from the Nasdaq SmallCap Market, and it now trades in the over-the-counter market, which is viewed by most investors as a less desirable and less liquid marketplace. Trading of our common stock in the over-the-counter market may be more difficult because of lower trading volumes, transaction delays and reduced security analyst and news media coverage. These factors could contribute to lower prices and larger spreads in the bid and ask prices for our common stock. Additionally, trading of our common stock in an over-the-counter market may make us less desirable to institutional investors and may, therefore, limit our future equity funding options.

Together, certain of our shareholders own a majority of our stock and could ultimately control decisions regarding our company

As a result of our reverse business combination with Permatec in January 2001 and subsequent additional debt and equity financings, Permatec Holding AG and its controlling shareholder, Dr. Jacques Gonella, own a substantial portion (as of March 30, 2004, approximately 23%) of our outstanding shares of common stock. Dr. Gonella, who is the Chairman of our Board of Directors, also owns warrants to purchase an aggregate of 4,198,976 shares of common stock and options to purchase 55,000 shares of common stock. Additionally, two investors (the Xmark funds and the SDS funds) own Series D Convertible Preferred Stock and warrants that are, as of March 30, 2004, convertible into or exercisable for an aggregate of 4,187,486 shares of our common stock. These investors also directly own an aggregate of 5,973,343 shares of our common stock. Finally, as a result of our recent private placements, the North Sound funds and Perceptive Life Sciences Master Fund own an aggregate of 4,700,000 shares of our common stock and own warrants exercisable for an aggregate of 1,983,333 shares of our common stock. If the Xmark funds and SDS converted all of the Series D stock and if Dr. Gonella and all of the above investors exercised all of the warrants or options owned by them, Dr. Gonella would own approximately 27%, and the investors as a group would own approximately 35%, of our common stock.

Because the parties described above either currently own or could potentially own a large portion of our stock, they may be able to generally determine or they will be able to significantly influence the outcome of corporate actions requiring shareholder approval. As a result, these parties may be in a position to control matters affecting our company, including decisions as to our corporate direction and policies; future issuances of securities; our incurrence of debt; amendments to our articles of incorporation and bylaws; payment of dividends on our common stock; and acquisitions, sales of our assets, mergers or similar transactions, including transactions involving a change of control. As a result, some investors may be unwilling to purchase our common stock. In addition, if the demand for our common stock is reduced because of these shareholders—control of the Company, the price of our common stock could be materially depressed.

11

Certain of our shareholders own large blocks of our common stock and own securities convertible or exercisable into shares of our common stock, and any exercises, conversions or sales by these shareholders could substantially lower the market price of our common stock

Several of our shareholders, including Dr. Gonella, whose sales are subject to volume limitations, the Xmark funds, the SDS funds, the North Sound funds and Perceptive Life Sciences Master Fund, own large blocks of our common stock. With the exception of a portion of the stock controlled by Dr. Gonella, the shares of our common stock owned by these shareholders (or issuable to them upon exercise or conversion of warrants, Series D stock or options) are either registered or are being registered with this registration statement. Future sales of large blocks of our common stock by any of the above investors could substantially depress our stock price.

Future conversions or exercises by holders of Series D stock, warrants or options could substantially dilute our common stock

As of March 30, 2004, our Series D stock is convertible into an aggregate of 2,437,490 shares of common stock. Additionally, we currently have warrants outstanding that are exercisable, at prices ranging from \$0.55 per share to \$1.60 per share, for an aggregate of 15,090,170 shares of our common stock. We also have options outstanding that are exercisable, at exercise prices ranging from \$1.13 to \$1.77 per share, for an aggregate of 1,541,030 shares of our common stock. Purchasers of common stock could therefore experience substantial dilution of their investment upon conversion of the Series D stock or exercise of the above warrants or options. The Series D stock, the warrants and the options are not registered and may be sold only if registered under the Securities Act of 1933, as amended, or sold in accordance with an applicable exemption from registration, such as Rule 144. The shares of common stock issuable upon exercise of the warrants or options held by these investors and into which the Series D is convertible are either currently registered or are being registered with this registration statement.

Sales of our common stock by our officers and directors may lower the market price of our common stock

As of March 30, 2004, our officers and directors beneficially owned an aggregate of 13,624,857 shares (or approximately 35.5%) of our common stock, including stock options exercisable within 60 days. If our officers and directors, or other shareholders, sell a substantial amount of our common stock, it could cause the market price of our common stock to decrease and could hamper our ability to raise capital through the sale of our equity securities.

We do not expect to pay dividends in the foreseeable future

We intend to retain any earnings in the foreseeable future for our continued growth and, thus, do not expect to declare or pay any cash dividends in the foreseeable future.

Anti-takeover effects of certain by-law provisions and Minnesota law could discourage, delay or prevent a change in control

Our articles of incorporation and bylaws along with Minnesota law could discourage, delay or prevent persons from acquiring or attempting to acquire us. Our articles of incorporation authorize our board of directors, without action by our shareholders, to designate and issue preferred stock in one or more series, with such rights, preferences and privileges as the board of directors shall determine. In addition, our bylaws grant

our board of directors the authority to adopt, amend or repeal all or any of our bylaws, subject to the power of the shareholders to change or repeal the bylaws. In addition, our bylaws limit who may call meetings of our shareholders.

As a public corporation, we are prohibited by the Minnesota Business Corporation Act, except under certain specified circumstances, from engaging in any merger, significant sale of stock or assets or business combination with any shareholder or group of shareholders who own at least 10% of our common stock.

12

USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares of our common stock by the selling shareholders.

SELLING SHAREHOLDERS

February and March 2004 Private Placement Selling Shareholders

In connection with three separate Purchase Agreements dated February 10, 2004, February 20, 2004 and March 9, 2004, we sold to several investors, at a price of \$1.00 per share, an aggregate of 15,120,000 shares of our common stock and warrants to purchase an aggregate of 5,039,994 shares of our common stock, which warrants are exercisable at a price of \$1.25 per share. In connection with the issuance of the common stock and warrants, we entered into a Registration Rights Agreement under which we agreed to register the common stock issued and the common stock issuable upon exercise of the warrants. To meet this obligation, we have filed a registration statement on Form S-2, of which this prospectus is a part, to register for resale by the selling shareholders the shares of common stock issued in the above transactions.

Other Selling Shareholders

In the past year, we have entered into several investor relations agreements with certain firms. We have issued shares of our common stock to these firms to pay for their services, and we have agreed to register the shares of common stock issued to these firms to date. Below is a description of the agreements we have with each of these firms.

- 1. Letter Agreement with Mark Wachs and Associates, Inc., dated October 11, 2002, under which Mark Wachs and Associates provides public relations services to us. The agreement was for an initial term of six months and renews upon mutual agreement of the parties. Pursuant to the agreement, from September 2003 to March 30, 2004, we issued a total of 30,000 shares to Mark Wachs and Associates that have not yet been registered.
- 2. Letter Agreement with SCO Financial Group LLC, dated June 27, 2003, as amended on August 1, 2003, under which SCO agreed to provide us with financial advice and consulting services. Pursuant to the agreement, in connection with the February and March 2004 private placements, we issued to SCO (and, at its request, to certain of its agents), five-year warrants to purchase an aggregate of 1,387,000 shares of our common stock at an exercise price of \$1.00 per share.
- 3. Letter Agreement with National Securities Corporation and SCO Financial Group LLC, dated February 19, 2004, under which we and SCO agreed that a portion of the fees due to SCO as a result of the February 20, 2004 private placement, including warrants, would be payable to National Securities Corporation. Pursuant to this letter agreement, in connection with the February 20, 2004 private placement, we issued to National Securities Corporation (and, at its request, to certain of its agents), five-year warrants to purchase an aggregate of 125,000 shares of our common stock at an exercise price of \$1.00 per share.

Based on information provided by the selling shareholders, the following table lists the selling shareholders and other information regarding their beneficial ownership of the shares of our common stock. The following table sets forth (i) the number of shares of common stock beneficially owned by each selling shareholder at March 30, 2004, assuming exercise of warrants and options (exercisable within 60 days) held by certain of the selling shareholders; (ii) the number of shares of common stock to be offered for resale by each selling shareholder pursuant to this prospectus; and (iii) the number and percentage of outstanding shares of common stock to be held by each selling shareholder after completion of the offering.

13

	Number of		Shares Ov	vned after
	shares of		Comple	etion of
	Common Stock	Number of	Offerin	g (1) (2)
	beneficially	shares of		
	owned at	Common Stock		
	March 30,	to be		
Name	2004 (1)	Offered (1)	Number	Percentage
Perceptive Life Sciences Master Fund, Ltd. (3)	3,600,000	3,600,000	0	0%
Atlas Equity I, Ltd. (4)	2,000,000	2,000,000	0	0%
Paul Scharfer (5)	491,667	266,667	225,000	*
Sands Brothers Venture Capital LLC (6)	66,667	66,667	0	0%
Sands Brothers Venture Capital II LLC (6)	66,667	66,667	0	0%
Sands Brothers Venture Capital III LLC (6)	400,000	400,000	0	0%
Sands Brothers Venture Capital IV LLC (6)	133,333	133,333	0	0%
North Sound Legacy Fund LLC (7)	132,083	53,333	78,750	*
North Sound Legacy Institutional Fund LLC (8)	1,276,250	480,000	796,250	2.1%
North Sound Legacy International Ltd. (9)	1,675,000	800,000	875,000	2.3%
SDS Capital Group, SPC, Ltd. (10)	4,337,980	1,000,000	3,337,980	8.8%
Orion Biomedical Offshore Fund, LP (11)	238,000	238,000	0	$\frac{0\%}{0\%}$
Orion Biomedical Fund, LP (12)	1,095,333	1,095,333	0	0%
JIBS Equities (13) Professional Traders Fund, LLC (14)	400,000 133,333	400,000 133,333	0	0%
Crestview Capital Master, L.L.C. (15)	1,000,000	1,000,000	0	0%
The Conus Fund, L.P. (16)	684,000	684,000	0	0%
East Hudson Inc. (17)	100,000	100,000	0	0%
The Conus Fund Offshore Ltd. (18)	110,667	110,667	0	0%
The Conus Fund (QP) L.P. (19)	105,333	105,333	0	0%
Pamela Kaweske (20)	73,333	73,333	0	0%
David P. Luci (21)	33,333	33,333	0	0%
Hytec International, Ltd. (22)	53,333	53,333	0	0%
Baffles S.A. (23)	73,333	73,333	0	0%
Cranshire Capital, LP (24)	333,333	333,333	0	0%
SRG Capital, LLC (25)	200,000	200,000	0	0%
Segoes Trust (26)	33,333	33,333	0	0%
Hauck & Aufhauser (27)	399,960	399,960	0	0%
Michael R. Hamblett (28)	166,667	166,667	0	0%
Jeffrey B. Davis (29)	425,833	404,733	21,100	*
Thomas J. Garrity (30)	48,333	33,333	15,000	*
Midsummer Investment, Ltd. (31)	333,333	333,333	0	0%
Michael J. Maloney (32)	33,333	33,333	0	0%
Lawrence Christian (33)	191,569	66,667	124,902	*
Michael Kasprick (34)	81,250	40,000	41,250	*
John J. Shaw (35)	200,000	200,000	0	0%
Bedrock Capital, L.P. (36)	433,333	433,333	0	0%
Alpha Capital AG (37)	400,000	400,000	0	0%
White Rock Capital Partners, L.P. (38)	1,133,333	1,133,333	0	0%
TexRock, Ltd. (39)	200,000	200,000	0	0%
T2, Ltd. (40)	233,333	233,333	27,000	0%
James L. Clark III (41)	60,333	33,333	27,000	0%
Drummer Partners L.P. (42)	66,667	66,667	0	U%

Nu Vision Holdings LLC (43)	200,000	200,000	0	0%
MidSouth Investor Fund LP (44)	133,333	133,333	0	0%
Gordon Gregoretti (45)	40,000	40,000	0	0%
Sandor Capital Master Fund, L.P. (46)	466,667	466,667	0	0%

	Number of		Shares Owned after		
	shares of		Compl	letion of	
	Common Stock	Number of	Offering (1) (2)		
	beneficially	shares of		_	
	owned at	Common Stock			
	March 30,	to be			
Name	2004 (1)	Offered (1)	Number	Percentage	
AS Capital Partners, LLC (47)	66,667	66,667	0	0%	
Stonestreet LP (48)	466,667	466,667	0	0%	
Whalehaven Fund Limited (49)	199,973	199,973	0	0%	
Westpark Capital, L.P. (50)	400,000	400,000	0	0%	
Truk Opportunity Fund, LLC (51)	66,667	66,667	0	0%	
Jack E. Stover (52)	40,000	40,000	0	0%	
TNC Partners I, LLC (53)	133,333	133,333	0	0%	
Keith Muckenhirn (54)	61,833	33,333	28,500	*	
Quogue Capital LLC (55)	386,666	386,666	0	0%	
Ellen Hendrickson (56)	22,183	13,333	8,850	*	
Anton Gueth (57)	51,333	33,333	18,000	*	
Luke P. Iovine, III (58)	26,733	26,733	0	0%	
Daniel DiPietro (59)	121,033	103,833	17,200	*	
Preston Tsao (60)	90,500	90,500	0	0%	
Mark Alvino (61)	45,200	45,200	0	0%	
SCO Capital Partners LLC (62)	1,814,400	889,400	925,000	2.4%	
David Weinstein (63)	63,429	63,429	0	0%	
David Ledoux (64)	9,375	9,375	0	0%	
Frank Salvatore (65)	10,473	10,473	0	0%	
Doug Kalser (66)	10,473	10,473	0	0%	
National Securities Corporation (67)	31,250	31,250	0	0%	
Mark Wachs and Associates, Inc. (68)	40,000	30,000	10,000	*	
	28,251,776	21,701,994			

^{*} less than one percent

⁽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. Each entity named in the table has sole voting and investment power, exercised by the individuals indicated in the following footnotes, with respect to all shares of stock listed as owned by such entity. The number of shares listed as beneficially owned by each selling shareholder is subject to any issuance limitations contained in our Series D stock or our warrants issued to such selling shareholder.

⁽²⁾ The number of shares owned after completion of the offering assumes the sale of all shares offered pursuant to this prospectus. However, we do not have any knowledge of the number of shares the selling shareholders may sell pursuant to this or any other prospectus. Additionally, the warrants sold in our February and March 2004 private placements are exercisable by any holder only to the extent that the number of shares of common stock issuable pursuant to such securities, together with the number of shares of common stock owned by such holder and its affiliates (but not including shares of common stock underlying unexercised shares of warrants) would not exceed 9.99% of the then outstanding common stock as determined in accordance with Section 13(d) of the Exchange Act. Each holder may, upon providing us with 61 days written notice, waive this 9.99% cap on exercises or conversions.

⁽³⁾ Perceptive Life Sciences Master Fund, Ltd. is a Cayman Islands corporation for which Joseph Edelman and Andrew C. Sankin exercise voting and investment control. The number of shares beneficially owned by Perceptive Life Sciences Master Fund, Ltd. represents 2,700,000 shares issued in the February 10, 2004 placement and 900,000 shares issuable upon exercise of its February 10, 2004 warrant.

(4) Atlas Equity I, Ltd. is a Cayman Islands limited entity for which Jacob Gottlieb and Dmitry Balyasay exercise voting and investment control. The number of shares beneficially owned by Atlas Equity I, Ltd.

15

- represents 1,500,000 shares issued in the February 10, 2004 placement and 500,000 shares issuable upon exercise of its February 10, 2004 warrant.
- (5) Paul Scharfer is an individual residing in New York and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Paul Scharfer represents 200,000 shares issued in the February 10, 2004 placement, 66,667 shares issuable upon exercise of his February 10, 2004 warrant, and 225,000 shares issuable upon exercise of a previously owned warrant (which warrant is subject to a 9.99% exercise limitation as described in note 2).
- Sands Brothers Venture Capital LLC, Sands Brothers Venture Capital II LLC, Sands Brothers Venture Capital III LLC, and Sands Brothers Venture Capital IV LLC are all Delaware limited liability companies for which Mike Costea exercises voting and investment control. The number of shares beneficially owned by Sands Brothers Venture Capital LLC represents 50,000 shares issued in the February 10, 2004 private placement and 16,667 shares issuable upon exercise of its February 10, 2004 warrant. The number of shares beneficially owned by Sands Brothers Venture Capital II LLC represents 50,000 shares issued in the February 10, 2004 private placement and 16,667 shares issuable upon exercise of its February 10, 2004 warrant. The number of shares beneficially owned by Sands Brothers Venture Capital III LLC represents 300,000 shares issued in the February 10, 2004 private placement and 100,000 shares issuable upon exercise of its February 10, 2004 warrant. The number of shares beneficially owned by Sands Brothers Venture Capital IV LLC represents 100,000 shares issued in the February 10, 2004 private placement and 33,333 shares issuable upon exercise of its February 10, 2004 warrant.
- (7) North Sound Legacy Fund LLC is a Delaware limited liability company, for which Thomas McAuley exercises voting and investment control. The number of shares beneficially owned by North Sound Legacy Fund LLC represents 40,000 shares issued in the February 10, 2004 placement, 13,333 shares issuable upon exercise of its February 10, 2004 warrant, 45,000 shares previously owned and 33,750 shares issuable upon exercise of a previously owned warrant (which warrant is subject to a 9.99% exercise limitation as described in note 2).
- (8) North Sound Legacy Institutional Fund LLC is a Delaware limited liability company, for which Thomas McAuley exercises voting and investment control. The number of shares beneficially owned by North Sound Legacy Institutional Fund LLC represents 360,000 shares issued in the February 10, 2004 placement, and 120,000 shares issuable upon exercise of its February 10, 2004 warrant, 455,000 shares previously owned and 341,250 shares issuable upon exercise of a previously owned warrant (which warrant is subject to a 9.99% exercise limitation as described in note 2).
- (9) North Sound Legacy International Ltd. is a British Virgin Islands entity for which Thomas McAuley exercises voting and investment control. The number of shares beneficially owned by North Sound Legacy International Ltd. represents 600,000 shares issued in the February 10, 2004 placement, 200,000 shares issuable upon exercise of its February 10, 2004 warrant, 500,000 shares previously owned and 375,000 shares issuable upon exercise of a previously owned warrant (which warrant is subject to a 9.99% exercise limitation as described in note 2).
- (10) SDS Capital Group SPC, Ltd. is a Cayman Islands corporation for which Steve Derby exercises voting and investment control. The number of shares beneficially owned by SDS Merchant Fund, LP represents 750,000 shares issued in the February 10, 2004 placement, 250,000 shares issuable upon exercise of its February 10, 2004 warrant, 635,880 shares issuable upon conversion of its Series D stock, 1,952,100 shares previously owned and 750,000 shares issuable upon exercise of a previously owned warrant (which warrant is subject to a 9.99% exercise limitation as described in note 2).
- (11) Orion Biomedical Offshore Fund, LP is a Cayman Islands limited partnership for which Lindsay Rosenwald exercises voting and investment control. The number of shares beneficially owned by Orion Biomedical Offshore Fund, LP represents 178,500 shares issued in the February 10, 2004 placement and 59,500 shares issuable upon exercise of its February 10, 2004 warrant.
- (12) Orion Biomedical Fund, LP is a Delaware limited partnership for which Lindsay Rosenwald exercises voting and investment control. The number of shares beneficially owned by Orion Biomedical Fund, LP represents 821,500 shares issued in the February 10, 2004 placement and 273,833 shares issuable upon exercise of its February 10, 2004 warrant.

16

- (13) JIBS Equities is a Delaware limited partnership for which Jeff Davidowitz exercises voting and investment control. The number of shares beneficially owned by JIBS Equities represents 300,000 shares issued in the February 10, 2004 placement and 100,000 shares issuable upon exercise of its February 10, 2004 warrant.
- (14) Professional Traders Fund, LLC is a New York limited liability company for which Marc K. Swickle and Howard Berger exercise voting and investment control. The number of shares beneficially owned by Professional Traders Fund, LLC represents 100,000 shares issued in the February 10, 2004 placement and 33,333 shares issuable upon exercise of its February 10, 2004 warrant.
- (15) Crestview Capital Master, L.L.C. is a Delaware limited liability company for which Richard Levy and Stewart Flint exercise voting and investment control. The number of shares beneficially owned by Crestview Capital Master, L.L.C. represents 750,000 shares issued in the February 10, 2004 placement and 250,000 shares issuable upon exercise of its February 10, 2004 warrant.
- (16) The Conus Fund, L.P. is a New York limited partnership for which Conus Capital L.L.C. is the general partner. Andrew D. Zacks is the managing member of Conus Capital L.L.C. and exercises voting and investment control for the shares owned by The Conus Fund, L.P. The number of shares beneficially owned by The Conus Fund, L.P. represents 513,000 shares issued in the February 10, 2004 placement and 171,000 shares issuable upon exercise of its February 10, 2004 warrant.
- (17) East Hudson Inc. is a British Virgin Islands corporation, for which Conus Partners, Inc. is the investment manager. Andrew D. Zacks is the managing director of Conus Partners, Inc. and exercises voting and investment control for the shares owned by East Hudson, Inc. The number of shares beneficially owned by East Hudson Inc. represents 75,000 shares issued in the February 10, 2004 placement and 25,000 shares issuable upon exercise of its February 10, 2004 warrant.
- (18) The Conus Fund Offshore Ltd. is a Cayman Islands corporation for which Conus Partners, Inc. is the investment manager. Andrew D. Zacks is the managing director of Conus Partners, Inc. and exercises voting and investment control for the shares owned by The Conus Fund Offshore Ltd. The number of shares beneficially owned by The Conus Fund Offshore Ltd. represents 83,000 shares issued in the February 10, 2004 placement and 27,667 shares issuable upon exercise of its February 10, 2004 warrant.
- (19) The Conus Fund (QP) L.P. is a New York limited partnership, for which Conus Capital L.L.C. is the general partner. Andrew D. Zacks is the managing member of Conus Capital L.L.C. and exercises voting and investment control for the shares owned by The Conus Fund (QP) L.P. The number of shares beneficially owned by The Conus Fund (QP) L.P. represents 79,000 shares issued in the February 10, 2004 placement and 26,333 shares issuable upon exercise of its February 10, 2004 warrant.
- (20) Pamela Kaweske is an individual residing in the Cayman Islands and exercises voting and investment control for the shares owned by her. The number of shares beneficially owned by Pamela Kaweske represents 55,000 shares issued in the February 20, 2004 placement and 18,333 shares issuable upon exercise of her February 20, 2004 warrant.
- (21) David P. Luci is an individual residing in New York and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by David P. Luci represents 25,000 shares issued in the February 20, 2004 placement and 8,333 shares issuable upon exercise of his February 20, 2004 warrant.
- (22) Hytec International, Ltd. is a Cayman Islands corporation for which Victoria Hollingsworth exercises voting and investment control. The number of shares beneficially owned by Hytec International, Ltd. represents 40,000 shares issued in the February 20, 2004 private placement and 13,333 shares issuable upon exercise of its February 20, 2004 warrant.
- (23) Baffles S.A. is a Cayman Islands corporation for which Lily Lee exercises voting and investment control. The number of shares beneficially owned by Baffles S.A. represents 55,000 shares issued in the February 20, 2004 private placement and 18,333 shares issuable upon exercise of its February 20, 2004 warrant.
- (24) Cranshire Capital, LP is an Illinois limited partnership for which Downsview Capital Inc. is the general partner. Mitchell Kopin is the President of Downsview Capital Inc. and exercises voting and investment control for the shares owned by Cranshire Capital, L.P. The number of shares beneficially owned by Cranshire Capital, LP represents 250,000 shares issued in the February 20, 2004 private placement and 83,333 shares issuable upon exercise of its February 20, 2004 warrant.

17

- (25) SRG Capital, LLC is a New York limited liability company for which Edwin McCabe and Tei May Lee jointly exercise voting and investment control. The number of shares beneficially owned by SRG Capital, LLC represents 150,000 shares issued in the February 20, 2004 private placement and 50,000 shares issuable upon exercise of its February 20, 2004 warrant.
- (26) Segoes Trust is a Cayman Islands trust for which James Fontanetta is the trustee and exercises voting and investment control. The number of shares beneficially owned by Segoes Trust represents 25,000 shares issued in the February 20, 2004 private placement and 8,333 shares issuable upon exercise of its February 20, 2004 warrant.
- (27) Hauck & Aufhauser is a Luxembourg corporation for which Bernd Sinnwell and Fredy Jungbluth exercise voting and investment control. The number of shares beneficially owned by Hauck & Aufhauser represents 299,970 shares issued in the February 20, 2004 private placement and 99,990 shares issuable upon exercise of its February 20, 2004 warrant.
- (28) Michael R. Hamblett is an individual residing in Connecticut and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Michael R. Hamblett represents 125,000 shares issued in the February 20, 2004 private placement and 41,667 shares issuable upon exercise of his February 20, 2004 warrant.
- (29) Jeffrey B. Davis is an individual residing in New Jersey and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Jeffrey B. Davis represents 100,000 shares issued in the February 20, 2004 private placement, 33,333 shares issuable upon exercise of his February 20, 2004 warrant, 271,400 shares issuable upon exercise of his March 9, 2004 warrant (assigned to him from SCO Securities LLC) and 21,100 shares issuable upon exercise of warrants previously owned.
- (30) Thomas J. Garrity, one of our directors, is an individual residing in Arizona and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Thomas J. Garrity represents 25,000 shares issued in the February 20, 2004 private placement, 8,333 shares issuable upon exercise of his February 20, 2004 warrant, and 15,000 shares previously owned.
- (31) Midsummer Investment, Ltd. is a Bermuda corporation for which Midsummer Capital, LLC is the investment manager. By virtue of such relationship, Midsummer Capital, LLC may be deemed to have dispositive power over the shares owned by Midsummer Investment, Ltd. Midsummer Capital, LLC disclaims beneficial ownership of such shares. Mr. Michel Amsalem and Mr. Scott Kaufman have delegated authority from the members of Midsummer Capital, LLC with respect to the shares of common stock owned by Midsummer Investment, Ltd. Messrs. Amsalem and Kaufman may be deemed to share dispositive power over the shares of common stock owned by Midsummer Investment, Ltd. Messrs. Amsalem and Kaufman disclaim beneficial ownership of such shares of common stock, and neither person has any legal right to maintain such delegated authority. The number of shares beneficially owned by Midsummer Investment, Ltd. represents 250,000 shares issued in the February 20, 2004 private placement and 83,333 shares issuable upon exercise of its February 20, 2004 warrant.
- (32) Michael J. Maloney is an individual residing in Connecticut and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Michael J. Maloney represents 25,000 shares issued in the February 20, 2004 private placement and 8,333 shares issuable upon exercise of his February 20, 2004 warrant.
- (33) Lawrence Christian, our Chief Financial Officer, is an individual residing in Pennsylvania and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Lawrence Christian represents 50,000 shares issued in the February 20, 2004 private placement, 16,667 shares issuable upon exercise of his February 20, 2004 warrant, 27,627 shares previously owned and options to purchase (within 60 days) an aggregate of 97,275 shares.
- (34) Michael Kasprick, our Executive Director of Business Development, is an individual residing in Minnesota and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Michael Kasprick represents 30,000 shares issued in the February 20, 2004 private placement, 10,000 shares issuable upon exercise of his February 20, 2004 warrant, and options to purchase (within 60 days) an aggregate of 41,250 shares.
- (35) John J. Shaw is an individual residing in California and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by John J. Shaw represents 150,000 shares

18

- issued in the February 20, 2004 private placement and 50,000 shares issuable upon exercise of his February 20, 2004 warrant.
- (36) Bedrock Capital, L.P. is a Texas limited partnership for which James C. Smith exercises voting and investment control. The number of shares beneficially owned by Bedrock Capital L.P. represents 325,000 shares issued in the February 20, 2004 private placement and 108,333 shares issuable upon exercise of its February 20, 2004 warrant.
- (37) Alpha Capital AG is a Leichtenstein corporation for which Konrad Ackerman exercises voting and investment control. The number of shares beneficially owned by Alpha Capital AG represents 300,000 shares issued in the February 20, 2004 private placement and 100,000 shares issuable upon exercise of its February 20, 2004 warrant.
- (38) White Rock Capital Partners, L.P. is a Texas limited partnership for which Tom Barton exercises voting and investment control. The number of shares beneficially owned by White Rock Capital Partners, L.P. represents 850,000 shares issued in the February 20, 2004 private placement and 283,333 shares issuable upon exercise of its February 20, 2004 warrant.
- (39) TexRock, Ltd. is a Texas corporation for which Tom Barton exercises voting and investment control. The number of shares beneficially owned by TexRock, Ltd. represents 150,000 shares issued in the February 20, 2004 private placement and 50,000 shares issuable upon exercise of its February 20, 2004 warrant.
- (40) T2, Ltd. is a Texas corporation for which James C. Smith exercises voting and investment control. The number of shares beneficially owned by T2, Ltd. represents 175,000 shares issued in the February 20, 2004 private placement and 58,333 shares issuable upon exercise of its February 20, 2004 warrant.
- (41) James L. Clark III, one of our directors, is an individual residing in Florida and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by James L. Clark III represents 25,000 shares issued in the February 20, 2004 private placement, 8,333 shares issuable upon exercise of his February 20, 2004 warrant, 2,000 shares previously owned and options to purchase (within 60 days) an aggregate of 25,000 shares.
- (42) Drummer Partners L.P. is a New York limited partnership for which Bernard Frank exercises voting and investment control. The number of shares beneficially owned by Drummer Partners L.P. represents 50,000 shares issued in the February 20, 2004 private placement and 16,667 shares issuable upon exercise of its February 20, 2004 warrant.
- (43) Nu Vision Holdings LLC is a New York limited liability company for which Steven Kevorkian exercises voting and investment control. The number of shares beneficially owned by Nu Vision Holdings LLC represents 150,000 shares issued in the February 20, 2004 private placement and 50,000 shares issuable upon exercise of its February 20, 2004 warrant.
- (44) MidSouth Investor Fund LP is a Delaware limited partnership for which Lyman O. Heidtke is the general partner and exercises voting and investment control. The number of shares beneficially owned by MidSouth Investor Fund LP represents 100,000 shares issued in the February 20, 2004 private placement and 33,333 shares issuable upon exercise of its February 20, 2004 warrant.
- (45) Gordon Gregoretti is an individual residing in Connecticut and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Gordon Gregoretti represents 30,000 shares issued in the February 20, 2004 private placement and 10,000 shares issuable upon exercise of his February 20, 2004 warrant.
- (46) Sandor Capital Master Fund, L.P. is a Texas limited partnership for which John S. Lemak exercises voting and investment control. The number of shares beneficially owned by Sandor Capital Master Fund, L.P. represents 350,000 shares issued in the February 20, 2004 private placement and 116,667 shares issuable upon exercise of its February 20, 2004 warrant.
- (47) AS Capital Partners LLC is a New York limited liability company for which Michael Coughlan exercises voting and investment control. The number of shares beneficially owned by AS Capital Partners LLC represents 50,000 shares issued in the February 20, 2004 private placement and 16,667 shares issuable upon exercise of its February 20, 2004 warrant.
- (48) Stonestreet LP is a Canadian limited partnership for which Michael Finkelstein and Elizabeth Leonard exercise voting and investment control. The number of shares beneficially owned by Stonestreet LP

19

- represents 350,000 shares issued in the February 20, 2004 private placement and 116,667 shares issuable upon exercise of its February 20, 2004 warrant.
- (49) Whalehaven Fund Limited is a Bermuda corporation for which Evan Schemenauer, Arthur Jones and Jennifer Kelly exercise voting and investment control. The number of shares beneficially owned by Whalehaven Fund Limited represents 149,980 shares issued in the February 20, 2004 private placement and 49,993 shares issuable upon exercise of its February 20, 2004 warrant.
- (50) Westpark Capital L.P. is a Texas limited partnership for which Patrick J. Brosnahan exercises voting and investment control. The number of shares beneficially owned by Westpark Capital L.P. represents 300,000 shares issued in the February 20, 2004 private placement and 100,000 shares issuable upon exercise of its February 20, 2004 warrant.
- (51) Truk Opportunity Fund, LLC is a Delaware limited liability company for which Atoll Asset Management, LLC is the managing member. Michael E. Fein and Stephen Saltzstein are principals of Atoll Asset Management, LLC and exercise voting and investment control over the shares owned by Truk Opportunity Fund, LLC. Both Mr. Fein and Mr. Saltzstein disclaim beneficial ownership of the common stock owned by Truk Opportunity Fund, LLC. The number of shares beneficially owned by Truk Opportunity Fund, LLC represents 50,000 shares issued in the February 20, 2004 private placement and 16,667 shares issuable upon exercise of its February 20, 2004 warrant.
- (52) Jack E. Stover is an individual residing in Pennsylvania and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Jack E. Stover represents 30,000 shares issued in the February 20, 2004 private placement and 10,000 shares issuable upon exercise of his February 20, 2004 warrant.
- (53) TNC Partners I, LLC is a New Jersey limited liability company for which Paul Siesser exercises voting and investment control. The number of shares beneficially owned by TNC Partners I, LLC represents 100,000 shares issued in the March 9, 2004 private placement and 33,333 shares issuable upon exercise of its March 9, 2004 warrant.
- (54) Keith Muckenhirn, our Controller, is an individual residing in Minnesota and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Keith Muckenhirn represents 25,000 shares issued in the March 9, 2004 private placement, 8,333 shares issuable upon exercise of his March 9, 2004 warrant, 12,000 shares previously owned and options to purchase (within 60 days) an aggregate of 16,500 shares.
- (55) Quogue Capital LLC is a New York limited liability company for which Wayne Rothbaum exercises voting and investment control. The number of shares beneficially owned by Quogue Capital LLC represents 290,000 shares issued in the March 9, 2004 private placement and 96,666 shares issuable upon exercise of its March 9, 2004 warrant.
- (56) Ellen Hendrickson, our employee, is an individual residing in Pennsylvania and exercises voting and investment control for the shares owner by her. The number of shares beneficially owned by Ellen Hendrickson represents 10,000 shares issued in the March 9, 2004 private placement, 3,333 shares issuable upon exercise of her March 9, 2004 warrant, 600 shares previously owned and options to purchase (within 60 days) an aggregate of 8,250 shares.
- (57) Anton Gueth, one of our directors, is an individual residing in California and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Anton Gueth represents 25,000 shares issued in the March 9, 2004 private placement, 8,333 shares issuable upon exercise of his March 9, 2004 warrant and 18,000 shares previously owned.
- (58) Luke P. Iovine, III is an individual residing in New Jersey and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Luke P. Iovine, III represents 20,050 shares issued in the March 9, 2004 private placement and 6,683 shares issuable upon exercise of his March 9, 2004 warrant.
- (59) Daniel DiPietro is an individual residing in New York and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Daniel DiPietro represents 10,000 shares issued in the March 9, 2004 private placement, 3,333 shares issuable upon exercise of his March 9, 2004 warrant, 90,500 shares issuable upon exercise of his March 9, 2004 warrant (assigned by SCO Securities LLC) and 17,200 shares issuable upon exercise of warrants previously owned.

20

- (60) Preston Tsao is an individual residing in New York and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Preston Tsao represents 90,500 shares issuable upon exercise of his March 9, 2004 warrant (assigned by SCO Securities LLC).
- (61) Mark Alvino is an individual residing in New York and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Mark Alvino represents 45,200 shares issuable upon exercise of his March 9, 2004 warrant (assigned by SCO Securities LLC).
- (62) SCO Capital Partners LLC is a Delaware limited liability company, for which Steven H. Rouhandeh is the Chairman and exercises voting and investment control. The number of shares beneficially owned by SCO Capital Partners LLC represents 889,400 shares issuable upon exercise of its March 9, 2004 warrant, 500,000 shares previously owned and an aggregate of 425,000 shares issuable upon exercise of previous issued warrants.
- (63) David Weinstein is an individual residing in Florida and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by David Weinstein represents 63,429 shares issuable upon exercise of his March 9, 2004 warrant (assigned by National Securities Corporation).
- (64) David Ledoux is an individual residing in Florida and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by David Ledoux represents 9,375 shares issuable upon exercise of his March 9, 2004 warrant (assigned by National Securities Corporation).
- (65) Frank Salvatore is an individual residing in Florida and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Frank Salvatore represents 10,473 shares issuable upon exercise of his March 9, 2004 warrant (assigned by National Securities Corporation).
- (66) Doug Kalser is an individual residing in Florida and exercises voting and investment control for the shares owned by him. The number of shares beneficially owned by Doug Kalser represents 10,473 shares issuable upon exercise of his March 9, 2004 warrant (assigned by National Securities Corporation).
- (67) National Securities Corporation is a Washington corporation for which Michael Bresner exercises voting and investment control. The number of shares beneficially owned by National Securities Corporation represents 31,250 shares issuable to it upon exercise of its March 9, 2004 warrant.
- (68) Mark Wachs and Associates, Inc. is a New York corporation. Mark Wachs is the president of the corporation and has voting and investment control over the shares owned by the corporation. The number of shares beneficially owned by March Wachs and Associates, Inc. includes 10,000 shares issued to it prior to September 2003 and 30,000 shares that are being registered herein.

CERTAIN INFORMATION ABOUT THE SELLING SHAREHOLDERS

The number of shares set forth in the table for the selling shareholders represents a good faith estimate of the number of shares of common stock to be offered by the selling shareholders. In addition, the actual number of shares of common stock offered in this prospectus, and included in the registration statement of which this prospectus is a part, includes such additional number of shares of common stock as may be issued or issuable upon exercise of the warrants by reason of any stock split, stock dividend or similar transaction involving the common stock, in accordance with Rule 416 under the Securities Act of 1933, as amended.

Under the terms of the warrants issued in our February and March 2004 placements, the warrants are exercisable by any holder only to the extent that the number of shares of common stock issuable pursuant to such securities, together with the number of shares of common stock owned by such holder and its affiliates (but not including shares of common stock underlying unexercised shares of warrants) would not exceed 9.99% of the then outstanding common stock as determined in accordance with Section 13(d) of the Exchange Act. Each holder may, upon providing us with 61 days written notice, waive this 9.99% cap on exercises.

PLAN OF DISTRIBUTION

We are registering the resale of certain shares of common stock issued and issuable upon exercise of warrants on behalf of the selling shareholders. The selling shareholders may offer and resell such shares from

time to time, either in increments or in a single transaction. They may also decide not to sell all the shares they are allowed to resell under this prospectus. The selling shareholders will act independently of us in making decisions with respect to the timing, manner and size of each sale.

Donees; Pledgees and Transferees

The term selling shareholder includes donees, i.e., persons who receive shares from the selling shareholders after the date of this prospectus by gift. The term also includes pledgees, i.e., persons who upon contractual default by the selling shareholders may seize shares which the selling shareholders pledged to such person, and other transferees or successors-in-interest.

Types of Sale Transactions

The selling shareholders may use any one or more of the following methods when disposing of shares or interests therein:

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

an exchange distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

short sales;

through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;

broker-dealers may agree with the selling shareholders to sell a specified number of such shares at a stipulated price per share;

a combination of any such methods of sale; or

any other method permitted pursuant to applicable law.

The selling shareholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling shareholders to include the pledgee, transferee or other successors in interest as selling shareholders under this prospectus. The selling shareholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling shareholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling shareholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling shareholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

22

Costs and Commissions

We will not receive any proceeds from the sale of the stock by the selling shareholders and will bear all costs, fees and expenses incident to our obligation to register the shares of common stock issued and issuable upon exercise of the warrants under the terms of the registration rights agreement. The selling shareholders will pay all brokerage commissions and similar selling expenses, if any, attributable to the sale of the shares.

Sales to or through Underwriters and Broker-Dealers

The selling shareholders may conduct such transactions either by selling shares directly to purchasers, or by selling shares to, or through underwriters or broker-dealers. Such underwriters or broker-dealers may act either as an agent of the selling shareholders, or as a principal for their own account. Such underwriters or broker-dealers may receive compensation in the form of discounts, concessions, or commissions from the selling shareholders and/or the purchasers of the shares. This compensation might also exceed customary commissions.

Deemed Underwriting Compensation

The selling shareholders and any third parties that act in connection with the sale of shares may be deemed to be underwriters within the meaning of Section 2(a)(11) of the Securities Act. Any discounts, commissions, concessions or profits they earn on the disposition of the shares of common stock may be deemed to be underwriting discounts or commissions under the Securities Act. The selling shareholders have purchased the shares of our common stock in the ordinary course of business, and at the time the selling shareholders purchased the shares of common stock, they were not a party to any agreement or other understanding to distribute the shares, directly or indirectly.

Indemnification

We have agreed to indemnify the selling shareholders against certain liabilities, including liabilities arising under the Securities Act or to contribute to payments the selling shareholders may be required to make in respect of such liabilities. The selling shareholders may agree to indemnify any underwriter, agent or broker-dealer that participates in transactions involving sales of shares against certain liabilities, including liabilities under the Securities Act.

Prospectus Delivery Requirements

Because they may be deemed to be underwriters, the selling shareholders must deliver this prospectus and any supplements to this prospectus in the manner required by the Securities Act. This might include delivery through the facilities of the Nasdaq SmallCap Market or the over the counter market, as the case may be, in accordance with Rule 153 of the Securities Act. In addition, the selling shareholders—sales in the market may be subject to the antimanipulative provisions of Regulation M under the Securities Exchange Act of 1934, as amended. These provisions may restrict certain activities of, and limit the timing of purchases and sales of any of the shares by, the selling shareholders or any other such person. Furthermore, under Regulation M, persons engaged in a distribution of securities are prohibited from simultaneously engaging in market

making and certain other activities with respect to such securities for a specified period of time prior to the commencement of such distributions, subject to specified exceptions or exemptions. Such limitations may affect the marketability of the shares.

State Requirements

Some states require that any shares sold in that state may only be sold through registered or licensed brokers or dealers. In addition, some states require that the shares have been registered or qualified for sale in that state, or that an exemption exists from the registration or qualification requirement and that the exemption or qualification requirements have been complied with.

23

Sales under Rule 144

The selling shareholders may also resell all or a portion of their shares in open market transactions in reliance upon Rule 144 under the Securities Act. To do so, they must meet the criteria and conform to the requirements of Rule 144.

Distribution Arrangements

If a selling shareholder no	otifies us that any mate	rial arrangement has l	been entered into	with an underwriter,	broker-dealer or ag	gent for the sale of
shares through a						

block trade,
special offering,
exchange distribution or secondary distribution, or

purchase by an underwriter or broker-dealer,

we will then file, if required, a supplement to this prospectus under Rule 424(b) under the Securities Act.

The supplement will disclose the following:

the name of the selling shareholder and of the participating underwriter(s) or broker-dealer(s);

the number of shares involved;

the price at which such shares are sold;

the commissions paid or discounts or concessions allowed to such underwriter(s) or broker-dealer(s), where applicable;

that such underwriter(s) or broker-dealer(s) did not conduct any investigation to verify the information in this prospectus; and

any other facts material to the transaction.

24

DESCRIPTION OF SECURITIES

Our authorized capital stock consists of 103,000,000 shares of capital stock, of which 100,000,000 are designated as common stock, par value \$.01 per share, and 3,000,000 are designated as preferred stock. As of March 30, 2004, we had 37,898,796 shares of common stock issued and outstanding, 245,199 shares of preferred stock issued and outstanding, including 243,749 shares of Series D stock that are convertible into 2,437,490 shares of common stock, options to purchase 2,072,772 shares of common stock and warrants to purchase 17,290,097 shares of common stock

Holders of our common stock are entitled to one vote for each share held in the election of individuals to our board of directors and in all other matters to be voted on by our shareholders. Cumulative voting is not permitted. Holders of our common stock are entitled to receive dividends as may be declared from time to time by our board directors out of funds legally available. In the event of liquidation, dissolution or winding up, holders of our common stock are to share in all assets remaining after the payment of liabilities. Holders of our common stock have no preemptive or conversion rights and are not subject to further calls or assessments. There are no redemption or sinking fund provisions applicable to our common stock. The rights of holders of our common stock are subject to any rights that may be fixed for holders of our preferred stock. All of the outstanding shares of our common stock are fully paid and non-assessable.

Our articles of incorporation authorize the issuance of preferred stock with designations, rights and preferences as may be determined from time to time by our board of directors. Our board of directors is empowered, without shareholder approval, to designate and issue additional shares of preferred stock with dividend, liquidation, conversion, voting or other rights, including the right to issue convertible securities with no limitations on conversion, which could adversely affect the voting power or other rights of the holders of our common stock, substantially dilute a common shareholder s interest and depress the price of our common stock.

Certain of the shares of our common stock being registered pursuant to this prospectus are issuable to the selling shareholders upon exercise of warrants we issued to such shareholders. With respect to the warrants issued to the investors in our February 10, February 20 and March 9, 2004 placements, a total of 5,039,994 shares are issuable upon exercise of the warrants, at an exercise price of \$1.25 per share. The warrants issued to SCO Securities LLC, National Securities Corporation and their agents are exercisable for an aggregate of 1,463,995 shares at an exercise price of \$1.00 per share. All of the warrants issued in the February placements expire five years from their date of issuance.

All of the warrants described above contain customary anti-dilution provisions that adjust the exercise prices and the number of shares issuable upon exercise of the warrants in the event we pay a stock dividend or effect any stock split or stock combination. The warrants also contain the following additional provisions:

in the event of any capital reorganization, reclassification of our capital stock, consolidation or merger in which we are not the survivor, or sale or other disposition of all or substantially all of our assets, we must use our best efforts to ensure that the warrantholders will have the right to purchase in lieu of shares of our common stock such stock, securities or assets as they would have received if they had exercised their warrants prior to such event;

in the event we fix a payment date for the making of a distribution of assets, subscription rights, warrants or evidences of indebtedness to our shareholders, the exercise price shall be adjusted accordingly;

in the event we issue any common stock or security convertible or exercisable into shares of our common stock at a per share price less than the then-existing exercise price of the warrants, or we change the exercise or conversion price of any outstanding security to

a price that is less than the then-existing exercise price of the warrants, the exercise price of the warrants shall be adjusted accordingly; and

if the registration statement to which this prospectus is a part ceases to remain effective for more than 30 days in any 12 month period or for more than a total of 90 days, the expiration date of the warrants will be extended for one day for each day beyond such 30-day or 90-day period.

25

LEGAL MATTERS

For the purpose of this offering, Leonard, Street and Deinard Professional Association, Minneapolis, Minnesota is giving an opinion of the validity of the issuance of the securities offered in this prospectus.

EXPERTS

The consolidated financial statements and schedule of Antares Pharma, Inc. as of December 31, 2002 and 2003, and for each of the years in the three-year period ended December 31, 2003, have been incorporated by reference herein and in the registration statement in reliance upon the reports of KPMG LLP, independent certified public accountants, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

The audit report of KPMG LLP covering the December 31, 2003 consolidated financial statements refers to the Company s adoption of the provisions of Statement of Financial Accounting Standards No. 142, *Goodwill and Other Intangible Assets*, on January 1, 2002.

INCORPORATION OF CERTAIN INFORMATION WITH RESPECT TO THE

REGISTRANT

This prospectus is accompanied by a copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2003 (Exhibit A). You should read this report to obtain additional information about our business, financial condition and results of operations.

INCORPORATION BY REFERENCE

The SEC requires us to incorporate by reference certain information we have filed with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. We incorporate by reference into this prospectus and refer you to the documents listed below:

our Annual Report on Form 10-K for the fiscal year ended December 31, 2003, filed with the SEC on March 30, 2004; and

the description of our common stock contained in our registration statement on Form S-1/A, filed on August 15, 1996, including any amendment or report filed for the purpose of updating the description.

You may request, orally or in writing, a copy of these filings. We will provide the copies of these filings to you at no cost. Please direct your requests to:

Antares Pharma, Inc.

707 Eagleview Boulevard

Suite 414

Exton, PA 19341

Attn. Lawrence Christian

ph. (610) 458-6200

26

INDEMNIFICATION

Minnesota Statutes Section 302A.521 provides that a corporation shall indemnify any person made or threatened to be made a party to a proceeding by reason of the former or present official capacity of such person against judgments, penalties, fines (including, without limitation, excise taxes assessed against such person with respect to any employee benefit plan), settlements and reasonable expenses, including attorneys fees and disbursements, incurred by such person in connection with the proceeding, if, with respect to the acts or omissions of such person complained of in the proceeding, such person

has not been indemnified therefor by another organization or employee benefit plan;
acted in good faith;
received no improper personal benefit and Section 302A.255 (with respect to director conflicts of interest), if applicable, has been satisfied;

reasonably believed that the conduct was in the best interests of the corporation in the case of acts or omissions in such person s official capacity for the corporation or reasonably believed that the conduct was not opposed to the best interests of the corporation in the case of acts or omissions in such person s official capacity for other affiliated organizations.

Article 7 of our Third Amended and Restated Articles of Incorporation provides that we will indemnify directors to the fullest extent permitted by the Minnesota Business Corporation Act as now enacted or hereafter amended.

We also maintain an insurance policy to assist in funding indemnification of directors and officers for certain liabilities.

in the case of a criminal proceeding, had no reasonable cause to believe the conduct was unlawful; and

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our company pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our filings are available to the public over the internet at the SEC s web site at http://www.sec.gov. You may also read and copy any document we file at the SEC s Public Reference Rooms in Washington, D.C., New York, New York, and Chicago, Illinois. A Public Reference Room is located at 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for additional information on the Public Reference Rooms.

You may also find information about us at our website: http://www.antarespharma.com. You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front page of those documents.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the sale of common stock being registered. All amounts, except the SEC registration fee, are estimates.

SEC Registration Fee	\$ 3,960.00
Legal Fees and Expenses	10,000.00
Accounting Fees and Expenses	15,000.00
Miscellaneous	1,040.00
Total	\$ 30,000.00

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Minnesota Statutes Section 302A.521 provides that a corporation shall indemnify any person made or threatened to be made a party to a proceeding by reason of the former or present official capacity of such person against judgments, penalties, fines (including, without limitation, excise taxes assessed against such person with respect to any employee benefit plan), settlements and reasonable expenses, including attorneys fees and disbursements, incurred by such person in connection with the proceeding, if, with respect to the acts or omissions of such person complained of in the proceeding, such person:

has not been indemnified therefor by another organization or employee benefit plan;

acted in good faith;

received no improper personal benefit and Section 302A.255 (with respect to director conflicts of interest), if applicable, has been satisfied;

in the case of a criminal proceeding, had no reasonable cause to believe the conduct was unlawful; and

reasonably believed that the conduct was in the best interests of the corporation in the case of acts or omissions in such person s official capacity for the corporation or reasonably believed that the conduct was not opposed to the best interests of the corporation in the case of acts or omissions in such person s official capacity for other affiliated organizations.

Article 7 of our Third Amended and Restated Articles of Incorporation provides that we will indemnify directors to the fullest extent permitted by the Minnesota Business Corporation Act as now enacted or hereafter amended.

We also maintain an insurance policy to assist in funding indemnification of directors and officers for certain liabilities.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our company pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

II-1

ITEM 16. EXHIBITS

EXHIBIT NUMBER	DOCUMENT
4.1**	Form of our Common Stock Certificate.
5.1	Opinion of Leonard, Street and Deinard Professional Association.
10.0(f)	Stock Purchase Agreement with Permatec Holding AG, Permatec Pharma AG, Permatec Technologie AG and Permatec NV with First and Second Amendments dated July 14, 2000
10.1(g)	Third Amendment to Stock Purchase Agreement, dated January 31, 2001
10.2(g)	Registration Rights Agreement with Permatec Holding AG dated January 31, 2001
10.3(g)	Registration Rights Agreement with Aventic Partners AG, Basellandschaftliche Kantonalbank and HCI Healthcare Investments Limited dated February 5, 2001, and Lombard Odier & Cie dated March 5, 2001
10.4(a)	Office/Warehouse/Showroom Lease, dated January 2, 1995, including amendments thereto
10.5(e)	Exclusive License & Supply Agreement with Bio-Technology General Corporation, dated December 22, 1999
10.6(e)	Preferred Stock Purchase Agreement with Bio-Technology General Corporation, dated December 22, 1999
10.7(a)	Preferred Stock, Option and Warrant Purchase Agreement, dated January 25, 1996, with Becton Dickinson and Company
10.8(g)*	Employment Agreement, dated January 31, 2001, with Franklin Pass, M.D.
10.9(g)*	Employment Agreement, dated March 12, 2001, with Roger Harrison, Ph.D.
10.10(g)*	Employment Agreement and Term and Compensation Addendum for 2000, dated May 1, 2000, with Lawrence Christian
10.11(g)*	Employment Agreement and Term and Compensation Addendum for 2000, dated May 1, 2000, with Peter Sadowski
10.12(i)*	Employment Agreement, dated May 31, 2000 with Dr. Dario Carrara
10.13(a)*	1993 Stock Option Plan
10.14(a)*	Form of incentive stock option agreement for use with 1993 Stock Option Plan
10.15(a)*	Form of non-qualified stock option agreement for use with 1993 Stock Option Plan
10.16(a)*	1996 Stock Option Plan, with form of stock option agreement
10.17(a)	Development and License Agreement with Becton Dickinson and Company, effective January 1, 1996 (terminated January 1, 1999). See Exhibit 10.21
10.18(b)	Office-Warehouse lease with Carlson Real Estate Company, dated February 11, 1997
10.19(c)*	1998 Stock Option Plan for Non-Employee Directors
10.20(c)*	Letter consulting agreement dated February 20, 1998 with Geoffrey W. Guy
10.21(d)	Agreement with Becton Dickinson dated January 1, 1999
10.22(d)	Securities Purchase Agreement with Elan International Services, Ltd. dated November 10, 1998

II-2

EXHIBIT NUMBER	DOCUMENT		
10.23(d)	License & Development Agreement with Elan Corporation, plc, dated November 10, 1998		
10.24(h)	Amended and Restated 2001 Stock Option Plan for Non-Employee Directors and Consultants		
10.25(h)*	Amended and Restated 2001 Incentive Stock Option Plan for Employees		
10.26(i)	Consulting Agreement with JG Consulting AG dated February 1, 2001		
10.27(i)	Office Lease Agreement with 707 Eagleview Boulevard Associates, a Pennsylvania Partnership, dated June 18, 2001		
10.28(j)	\$2,000,000 Term Note with Dr. Jacques Gonella dated February 20, 2002		
10.29(k)	Securities Purchase Agreement, dated July 12, 2002, between Antares Pharma, Inc. and AJW Partners, LLC; AJW/New Millennium Offshore, Ltd.; Pegasus Capital Partners, LLC; XMark Fund, L.P.; XMark Fund, Ltd.; SDS Merchant Fund, LP; and OTATO Limited Partnership.		
10.30(k)	Registration Rights Agreement, dated July 12, 2002, between Antares Pharma, Inc. and AJW Partners, LLC; AJW/New Millennium Offshore, Ltd.; Pegasus Capital Partners, LLC; XMark Fund, L.P.; XMark Fund, Ltd.; SDS Merchant Fund, LP; and OTATO Limited Partnership.		
10.31(k)	Security Agreement, dated July 12, 2002, between Antares Pharma, Inc. and AJW Partners, LLC; AJW/New Millennium Offshore, Ltd.; Pegasus Capital Partners, LLC; XMark Fund, L.P.; XMark Fund, Ltd.; SDS Merchant Fund, LP; and OTATO Limited Partnership.		
10.32(k)	Form of Secured Convertible Debenture, dated July 12, 2002.(k)		
10.33(1)	License Agreement with Solvay Pharmaceuticals BV, Dated June 9, 1999.		
10.34(1)	License Agreement with BioSante Pharmaceuticals, Inc., dated June 13, 2000.		
10.35(1)	Amendment No. 1 to License Agreement with BioSante Pharmaceuticals, Inc., dated May 20, 2001.		
10.36(1)	Amendment No. 2 to License Agreement with BioSante Pharmaceuticals, Inc., dated July 5, 2001.		
10.37(1)	Amendment No. 3 to License Agreement with BioSante Pharmaceuticals, Inc., dated August 28, 2001.		
10.38(1)	Amendment No. 4 to License Agreement with BioSante Pharmaceuticals, Inc., dated August 8, 2002.		
10.39(m)	Debenture and Warrant Purchase Agreement, dated January 31, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP		
10.40(m)	Debenture and Warrant Purchase Agreement, dated January 31, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P. and XMark Fund, Ltd.		
10.41(m)	Registration Rights Agreement, dated January 31, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP		
10.42(m)	Amended and Restated Security Agreement, dated January 31, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP		
10.43(m)	Form of Warrant, dated January 31, 2003		
10.44(m)	Form of 8% Senior Secured Convertible Debenture, dated January 31, 2003		
10.45(m)	Form of Amended and Restated 8% Senior Secured Convertible Debenture, dated January 31, 2003		

II-3

EXHIBIT			
NUMBER	DOCUMENT		
10.46(m)	Form of Promissory Note		
10.47(n)	License Agreement between Antares Pharma, Inc. and Ferring BV, dated January 21, 2003.		
10.48(o)	Purchase Agreement, dated July 7, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP		
10.49(o)	Registration Rights Agreement, dated July 7, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP		
10.50(o)	Voting Agreement, dated July 7, 2003, by and among Antares Pharma, Inc., Xmark Fund, L.P., Xmark Fund, Ltd., Dr. Jacques Gonella and Permatec Holding AG		
10.51(o)	Form of Warrant, dated July 7, 2003		
10.52(p)	Purchase Agreement, dated July 17, 2003, by and among Antares Pharma, Inc., North Sound Legacy Fund LLC, North Sound Legacy Institutional Fund LLC, North Sound Legacy International Ltd., SCO Capital Partners LLC, Vertical Ventures Investments, LLC and Paul Scharfer		
10.53(p)	Registration Rights Agreement, dated July 17, 2003, by and among Antares Pharma, Inc., North Sound Legacy Fund LLC, North Sound Legacy Institutional Fund LLC, North Sound Legacy International Ltd., SCO Capital Partners LLC, Vertical Ventures Investments, LLC and Paul Scharfer		
10.54(p)	Form of Warrant, dated July 17, 2003		
10.55(p)	Form of Lock-Up Agreement, dated July 17, 2003		
10.56(q)	Investment Letter and Conversion Notice, dated September 12, 2003, from Dr. Jacques Gonella		
10.57(q)	Securities Exchange Agreement, dated September 12, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP		
10.58(q)	Form of Lien Release Letter, dated July 7, 2003		
10.59(r)	Development and License Agreement, dated September 12, 2003, between Eli Lilly and Company and Antares Pharma, Inc.		
10.60(r)	Warrant Agreement, dated September 12, 2003, between Eli Lilly and Company and Antares Pharma, Inc.		
10.61(r)	Registration Rights Agreement, dated September 12, 2003, between Eli Lilly and Company and Antares Pharma, Inc.		
10.62(s)	Form of Purchase Agreement, dated February 10, 2004, by and among Antares Pharma, Inc. and the Investors		
10.63(s)	Form of Registration Rights Agreement, dated February 10, 2004, by and among Antares Pharma, Inc. and the Investors		
10.64(s)	Form of Warrant, dated February 10, 2004		
10.65(t)	Office lease with The Trustees Under the Will and of the Estate of James Campbell, Deceased, dated February 19, 2004		
10.66(t)	Form of Indemnification Agreement, dated January 2, 2004, between Antares Pharma, Inc. and each of its directors and executive officers		

II-4

EXHIBIT	
NUMBER	

DOCUMENT

13.1(t)	Annual Report on Form 10-K for the year ended December 31, 2003.
23.1	Consent of KPMG LLP, Independent Certified Public Accountants.
23.2	Consent of Leonard, Street and Deinard Professional Association (included in Exhibit 5.1).
24.1	Power of Attorney (See page II-4).

- * Indicates management contract or compensatory plan or arrangement.

 Confidential portions of this exhibit were redacted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment.
- ** Previously filed as an exhibit to our Registration Statement on Form S-3, filed with the SEC on May 31, 2001, and incorporated herein by reference.
- (a) Previously filed as an exhibit to our Registration Statement on Form S-1, filed with the SEC on October 1, 1996, and incorporated herein by reference.
- (b) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 1996, filed with the SEC on March 31, 1997, and incorporated herein by reference.
- (c) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 1997, filed with the SEC on March 30, 1998, and incorporated herein by reference.
- (d) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 1998, filed with the SEC on March 31, 1999, and incorporated herein by reference.
- (e) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 1999, filed with the SEC on March 30, 2000, and incorporated herein by reference.
- (f) Previously filed as an exhibit to our Proxy Statement filed with the SEC on December 28, 2000, and incorporated herein by reference.
- (g) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 2000, filed with the SEC on April 16, 2001, and incorporated herein by reference.
- (h) Previously filed as an exhibit to our Registration Statement on Form S-8 (File No. 333-111177), filed with the Securities and Exchange Commission on December 15, 2003, and incorporated herein by reference.
- (i) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 2001, filed with the SEC on April 15, 2002, and incorporated herein by reference.
- (j) Previously filed as an exhibit to our Form 10-Q for the quarter ended March 31, 2002, filed with the SEC on May 13, 2002, and incorporated herein by reference.
- (k) Previously filed as an exhibit to our Form 8-K filed with the SEC on July 17, 2002, and incorporated herein by reference.
- (I) Previously filed as an exhibit to our Form 10-K/A for the year ended December 31, 2001, filed with the SEC on September 19, 2002, and incorporated herein by reference.
- (m) Previously filed as an exhibit to our Form 8-K filed with the SEC on February 12, 2003, and incorporated herein by reference.
- (n) Previously filed as an exhibit to our Form 8-K filed with the SEC on February 20, 2003, and incorporated herein by reference.
- (o) Previously filed as an exhibit to our Form 8-K, filed with the SEC on July 9, 2003, and incorporated herein by reference.
- (p) Previously filed as an exhibit to our Form 8-K, filed with the SEC on July 22, 2003, and incorporated herein by reference.
- (q) Previously filed as an exhibit to our Form 8-K, filed with the SEC on September 15, 2003, and incorporated herein by reference.
- (r) Previously filed as an exhibit to our Form 8-K, filed with the SEC on September 18, 2003, and incorporated herein by reference.
- (s) Previously filed as an exhibit to our Form 8-K, filed with the SEC on February 10, 2004, and incorporated herein by reference.
- (t) Previously filed with the SEC on March 30, 2004, and incorporated herein by reference.

II-5

ITEM 17. UNDERTAKINGS

(a) The undersig	ned 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:
(i) to include any	y prospectus required by Section 10(a)(3) of the Securities Act of 1933;

- (ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of the securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement;
- (iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the 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 remain unsold at the termination of the offering.
- (b) Insofar as indemnification for liabilities arising under the Securities Act 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 SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

II-6

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-2 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Exton, Pennsylvania, on March 31, 2004.

By:	/s/ Roger G. Harrison
	Roger G. Harrison, Ph.D. Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned officers and directors of Antares Pharma, Inc. hereby constitute each of Roger G. Harrison, Ph.D. and Lawrence M. Christian our true and lawful attorney-in-fact, with full power of substitution, to sign for us and in our names in the capacities indicated below the registration statement filed herewith and any and all amendments to said registration statement, and generally to do all such things in our name and behalf in our capacities as officers and directors to enable Antares Pharma, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorney to said registration statement and any and all amendments thereto.

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

Signature	Title	Date	
/s/ Roger G. Harrison	Chief Executive Officer and Director (principal executive officer)	March 31, 2004	
Roger G. Harrison, Ph.D.	- executive officer)		
/s/ Lawrence M. Christian	Vice President of Finance, - Chief Financial Officer and Secretary (principal	March 31, 2004	
Lawrence M. Christian	financial and accounting officer)		
/s/ Jacques Gonella	Director, Chairman of the Board	March 31, 2004	
Dr. Jacques Gonella	-		
/s/ Thomas J. Garrity	Director	March 31, 2004	
Thomas J. Garrity			

/s/ James Clark	Director	March 31, 2004
James Clark		
/s/ Philippe Dro	Director	March 31, 2004
Dr. Philippe Dro		
/s/ Anton Gueth	Director	March 31, 2004
Anton Gueth		

II-7

EXHIBIT INDEX

EXHIBIT

NUMBER	DOCUMENT
4.1**	Form of our Common Stock Certificate.
5.1	Opinion of Leonard, Street and Deinard Professional Association.
10.0(f)	Stock Purchase Agreement with Permatec Holding AG, Permatec Pharma AG, Permatec Technologie AG and Permatec NV with First and Second Amendments dated July 14, 2000
10.1(g)	Third Amendment to Stock Purchase Agreement, dated January 31, 2001
10.2(g)	Registration Rights Agreement with Permatec Holding AG dated January 31, 2001
10.3(g)	Registration Rights Agreement with Aventic Partners AG, Basellandschaftliche Kantonalbank and HCI Healthcare Investments Limited dated February 5, 2001, and Lombard Odier & Cie dated March 5, 2001
10.4(a)	Office/Warehouse/Showroom Lease, dated January 2, 1995, including amendments thereto
10.5(e)	Exclusive License & Supply Agreement with Bio-Technology General Corporation, dated December 22, 1999
10.6(e)	Preferred Stock Purchase Agreement with Bio-Technology General Corporation, dated December 22, 1999
10.7(a)	Preferred Stock, Option and Warrant Purchase Agreement, dated January 25, 1996, with Becton Dickinson and Company
10.8(g)*	Employment Agreement, dated January 31, 2001, with Franklin Pass, M.D.
10.9(g)*	Employment Agreement, dated March 12, 2001, with Roger Harrison, Ph.D.
10.10(g)*	Employment Agreement and Term and Compensation Addendum for 2000, dated May 1, 2000, with Lawrence Christian
10.11(g)*	Employment Agreement and Term and Compensation Addendum for 2000, dated May 1, 2000, with Peter Sadowski
10.12(i)*	Employment Agreement, dated May 31, 2000 with Dr. Dario Carrara
10.13(a)*	1993 Stock Option Plan
10.14(a)*	Form of incentive stock option agreement for use with 1993 Stock Option Plan
10.15(a)*	Form of non-qualified stock option agreement for use with 1993 Stock Option Plan
10.16(a)*	1996 Stock Option Plan, with form of stock option agreement
10.17(a)	Development and License Agreement with Becton Dickinson and Company, effective January 1, 1996 (terminated January 1, 1999). See Exhibit 10.21
10.18(b)	Office-Warehouse lease with Carlson Real Estate Company, dated February 11, 1997
10.19(c)*	1998 Stock Option Plan for Non-Employee Directors
10.20(c)*	Letter consulting agreement dated February 20, 1998 with Geoffrey W. Guy
10.21(d)	Agreement with Becton Dickinson dated January 1, 1999
10.22(d)	Securities Purchase Agreement with Elan International Services, Ltd. dated November 10, 1998
10.23(d)	License & Development Agreement with Elan Corporation, plc, dated November 10, 1998
10.24(h)	Amended and Restated 2001 Stock Option Plan for Non-Employee Directors and Consultants

EXHIBIT

NUMBER	DOCUMENT
10.25(h)*	Amended and Restated 2001 Incentive Stock Option Plan for Employees
10.26(i)	Consulting Agreement with JG Consulting AG dated February 1, 2001
10.27(i)	Office Lease Agreement with 707 Eagleview Boulevard Associates, a Pennsylvania Partnership, dated June 18, 2001
10.28(j)	\$2,000,000 Term Note with Dr. Jacques Gonella dated February 20, 2002
10.29(k)	Securities Purchase Agreement, dated July 12, 2002, between Antares Pharma, Inc. and AJW Partners, LLC; AJW/New Millennium Offshore, Ltd.; Pegasus Capital Partners, LLC; XMark Fund, L.P.; XMark Fund, Ltd.; SDS Merchant Fund, LP; and OTATO Limited Partnership.
10.30(k)	Registration Rights Agreement, dated July 12, 2002, between Antares Pharma, Inc. and AJW Partners, LLC; AJW/New Millennium Offshore, Ltd.; Pegasus Capital Partners, LLC; XMark Fund, L.P.; XMark Fund, Ltd.; SDS Merchant Fund, LP; and OTATO Limited Partnership.
10.31(k)	Security Agreement, dated July 12, 2002, between Antares Pharma, Inc. and AJW Partners, LLC; AJW/New Millennium Offshore, Ltd.; Pegasus Capital Partners, LLC; XMark Fund, L.P.; XMark Fund, Ltd.; SDS Merchant Fund, LP; and OTATO Limited Partnership.
10.32(k)	Form of Secured Convertible Debenture, dated July 12, 2002.(k)
10.33(1)	License Agreement with Solvay Pharmaceuticals BV, Dated June 9, 1999.
10.34(1)	License Agreement with BioSante Pharmaceuticals, Inc., dated June 13, 2000.
10.35(1)	Amendment No. 1 to License Agreement with BioSante Pharmaceuticals, Inc., dated May 20, 2001.
10.36(1)	Amendment No. 2 to License Agreement with BioSante Pharmaceuticals, Inc., dated July 5, 2001.
10.37(1)	Amendment No. 3 to License Agreement with BioSante Pharmaceuticals, Inc., dated August 28, 2001.
10.38(1)	Amendment No. 4 to License Agreement with BioSante Pharmaceuticals, Inc., dated August 8, 2002.
10.39(m)	Debenture and Warrant Purchase Agreement, dated January 31, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP
10.40(m)	Debenture and Warrant Purchase Agreement, dated January 31, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P. and XMark Fund, Ltd.
10.41(m)	Registration Rights Agreement, dated January 31, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP
10.42(m)	Amended and Restated Security Agreement, dated January 31, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP
10.43(m)	Form of Warrant, dated January 31, 2003
10.44(m)	Form of 8% Senior Secured Convertible Debenture, dated January 31, 2003
10.45(m)	Form of Amended and Restated 8% Senior Secured Convertible Debenture, dated January 31, 2003
10.46(m)	Form of Promissory Note
10.47(n)	License Agreement between Antares Pharma, Inc. and Ferring BV, dated January 21, 2003.
10.48(o)	Purchase Agreement, dated July 7, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP

EXHIBIT

NUMBER	DOCUMENT
10.49(o)	Registration Rights Agreement, dated July 7, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P.,
10.50()	XMark Fund, Ltd. and SDS Merchant Fund, LP
10.50(o)	Voting Agreement, dated July 7, 2003, by and among Antares Pharma, Inc., Xmark Fund, L.P., Xmark Fund,
10.51(-)	Ltd., Dr. Jacques Gonella and Permatec Holding AG
10.51(o)	Form of Warrant, dated July 7, 2003 Purchase Agreement, dated July 17, 2003, by and among Antares Pharma, Inc., North Sound Legacy Fund LLC,
10.52(p)	North Sound Legacy Institutional Fund LLC, North Sound Legacy International Ltd., SCO Capital Partners LLC, Vertical Ventures Investments, LLC and Paul Scharfer
10.53(p)	Registration Rights Agreement, dated July 17, 2003, by and among Antares Pharma, Inc., North Sound Legacy Fund LLC, North Sound Legacy Institutional Fund LLC, North Sound Legacy International Ltd., SCO Capital Partners LLC, Vertical Ventures Investments, LLC and Paul Scharfer
10.54(p)	Form of Warrant, dated July 17, 2003
10.55(p)	Form of Lock-Up Agreement, dated July 17, 2003
10.56(q)	Investment Letter and Conversion Notice, dated September 12, 2003, from Dr. Jacques Gonella
10.57(q)	Securities Exchange Agreement, dated September 12, 2003, by and among Antares Pharma, Inc., XMark Fund, L.P., XMark Fund, Ltd. and SDS Merchant Fund, LP
10.58(q)	Form of Lien Release Letter, dated July 7, 2003
10.59(r)	Development and License Agreement, dated September 12, 2003, between Eli Lilly and Company and Antares Pharma, Inc.
10.60(r)	Warrant Agreement, dated September 12, 2003, between Eli Lilly and Company and Antares Pharma, Inc.
10.61(r)	Registration Rights Agreement, dated September 12, 2003, between Eli Lilly and Company and Antares Pharma. Inc.
10.62(s)	Form of Purchase Agreement, dated February 10, 2004, by and among Antares Pharma, Inc. and the Investors
10.63(s)	Form of Registration Rights Agreement, dated February 10, 2004, by and among Antares Pharma, Inc. and the Investors
10.64(s)	Form of Warrant, dated February 10, 2004
10.65(t)	Office lease with The Trustees Under the Will and of the Estate of James Campbell, Deceased, dated February 19, 2004
10.66(t)	Form of Indemnification Agreement, dated January 2, 2004, between Antares Pharma, Inc. and each of its directors and executive officers
13.1(t)	Annual Report on Form 10-K for the year ended December 31, 2003.
23.1	Consent of KPMG LLP, Independent Certified Public Accountants.
23.2	Consent of Leonard, Street and Deinard Professional Association (included in Exhibit 5.1).
24.1	Power of Attorney (See page II-4).

^{*} Indicates management contract or compensatory plan or arrangement.

- Confidential portions of this exhibit were redacted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment.
- ** Previously filed as an exhibit to our Registration Statement on Form S-3, filed with the SEC on May 31, 2001, and incorporated herein by reference.
- (a) Previously filed as an exhibit to our Registration Statement on Form S-1, filed with the SEC on October 1, 1996, and incorporated herein by reference.
- (b) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 1996, filed with the SEC on March 31, 1997, and incorporated herein by reference.
- (c) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 1997, filed with the SEC on March 30, 1998, and incorporated herein by reference.
- (d) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 1998, filed with the SEC on March 31, 1999, and incorporated herein by reference.
- (e) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 1999, filed with the SEC on March 30, 2000, and incorporated herein by reference.
- (f) Previously filed as an exhibit to our Proxy Statement filed with the SEC on December 28, 2000, and incorporated herein by reference.
- (g) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 2000, filed with the SEC on April 16, 2001, and incorporated herein by reference.
- (h) Previously filed as an exhibit to our Registration Statement on Form S-8 (File No. 333-111177), filed with the Securities and Exchange Commission on December 15, 2003, and incorporated herein by reference.
- (i) Previously filed as an exhibit to our Form 10-K for the year ended December 31, 2001, filed with the SEC on April 15, 2002, and incorporated herein by reference.
- (j) Previously filed as an exhibit to our Form 10-Q for the quarter ended March 31, 2002, filed with the SEC on May 13, 2002, and incorporated herein by reference.
- (k) Previously filed as an exhibit to our Form 8-K filed with the SEC on July 17, 2002, and incorporated herein by reference.
- (1) Previously filed as an exhibit to our Form 10-K/A for the year ended December 31, 2001, filed with the SEC on September 19, 2002, and incorporated herein by reference.
- (m) Previously filed as an exhibit to our Form 8-K filed with the SEC on February 12, 2003, and incorporated herein by reference.
- (n) Previously filed as an exhibit to our Form 8-K filed with the SEC on February 20, 2003, and incorporated herein by reference.
- (o) Previously filed as an exhibit to our Form 8-K, filed with the SEC on July 9, 2003, and incorporated herein by reference.
- (p) Previously filed as an exhibit to our Form 8-K, filed with the SEC on July 22, 2003, and incorporated herein by reference.
- $(q) \quad \mbox{Previously filed as an exhibit to our Form 8-K, filed with the SEC on September 15, 2003, and incorporated herein by reference.}$
- (r) Previously filed as an exhibit to our Form 8-K, filed with the SEC on September 18, 2003, and incorporated herein by reference.
- (s) Previously filed as an exhibit to our Form 8-K, filed with the SEC on February 10, 2004, and incorporated herein by reference.
- (t) Previously filed with the SEC on March 30, 2004, and incorporated herein by reference.