

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

EPIX Pharmaceuticals, Inc.
Form 424B3
November 05, 2004

Filed pursuant to Rule 424(b)(3)
Registration No. 333-117925

PROSPECTUS

[EPIX LOGO]

\$100,000,000 PRINCIPAL AMOUNT OF 3.00% CONVERTIBLE SENIOR NOTES DUE 2024

3,359,086 SHARES OF COMMON STOCK
ISSUABLE UPON CONVERSION OF THE NOTES

EPIX PHARMACEUTICALS, INC.

We issued \$100,000,000 aggregate principal amount of our 3.00% Convertible Senior Notes due 2024 in a private placement on June 7, 2004. The initial purchasers resold the notes to qualified institutional buyers in accordance with Rule 144A under the Securities Act of 1933, as amended. This prospectus will be used by the selling security holders from time to time to resell their notes and the common stock issuable upon the conversion of the notes. We will not receive any proceeds from the sale of the notes or the shares of common stock issuable upon the conversion of the notes.

The notes bear interest at the rate of 3.00% per annum, from December 15, 2004, payable semi-annually in arrears on June 15 and December 15 of each year, beginning December 15, 2004.

The notes will mature on June 15, 2024. We may redeem some or all of the notes at any time after June 15, 2009 at the redemption prices specified in this prospectus plus accrued and unpaid interest and additional interest, if any, to, but excluding, the date of redemption.

Holder of the notes have the right to require us to repurchase the notes at a purchase price equal to 100% of the principal amount of the notes plus accrued and unpaid interest, if any, on June 15, 2011, 2014 and 2019 or upon a termination of trading or a change of control event, each as described in this prospectus.

Holder of the notes may convert the notes into shares of our common stock only in the following circumstances:

- if the price of our common stock reaches a specified threshold over a specified period as described in this prospectus;
- if the notes are called for redemption;
- if we make specified distributions on our common stock or engage in specified corporate transactions; and
- at any time before June 15, 2019 if the trading price of the notes falls below certain thresholds.

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

The initial conversion price is \$29.77 per share (equivalent to an initial conversion rate of approximately 33.5909 shares per \$1,000 principal amount of the notes), subject to adjustment in certain circumstances. Our common stock is traded on the Nasdaq National Market under the symbol "EPIX." The last reported closing price of our common stock on November 4, 2004 was \$16.03 per share.

The notes are unsecured and will rank equally with all existing and future unsecured senior indebtedness except that the notes are subordinated to certain senior indebtedness described in this prospectus. The notes will rank senior in right of payment to all existing and future unsecured subordinated debt.

For a more detailed description of the notes, see the "Description of Notes" beginning on page 18.

Our address is EPIX Pharmaceuticals, Inc., 161 First Street, Cambridge, Massachusetts, and our telephone number is (617) 250-6000.

INVESTING IN THE NOTES OR OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. SEE "RISK FACTORS" BEGINNING ON PAGE 6.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION 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 November 5, 2004

=====

TABLE OF CONTENTS

	PAGE
Prospectus Summary.....	1
Risk Factors.....	6
Forward-Looking Statements.....	24
Ratio of Earnings to Fixed Charges.....	24
Use of Proceeds.....	24
Description of Notes.....	25
Description of Capital Stock.....	40
Certain U.S. Federal Income Tax Consequences.....	41
Selling Holders.....	48
Plan of Distribution.....	50
Legal Matters.....	51
Experts.....	51

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

Where You Can Find More Information.....	51
Incorporation of Documents By Reference.....	51

=====

You should rely only on the information provided or incorporated by reference in this prospectus or any prospectus supplement. Neither we nor the selling holders have authorized anyone to provide you with additional or different information. The selling holders are not making an offer of these securities in any jurisdiction where the offer is not permitted. You should assume that the information in this prospectus and any prospectus supplement is accurate only as of the date on the front of the document and that information incorporated by reference in this prospectus or any prospectus supplement is accurate only as of the date of the document incorporated by reference. In this prospectus and any prospectus supplement, unless otherwise indicated, "we," "us" and "our" refer to EPIX Pharmaceuticals, Inc., and do not refer to the selling holders.

"EPIX," "EPIX Pharmaceuticals" and the "EPIX" logo are trademarks and registered trademarks of EPIX Pharmaceuticals, Inc. All other trademarks appearing in this prospectus are the property of their holders. In September 2004, we changed our name from EPIX Medical, Inc. to EPIX Pharmaceuticals, Inc.

PROSPECTUS SUMMARY

THIS SUMMARY HIGHLIGHTS INFORMATION ABOUT EPIX PHARMACEUTICALS, INC. BECAUSE THIS IS A SUMMARY, IT MAY NOT CONTAIN ALL THE INFORMATION YOU SHOULD CONSIDER BEFORE INVESTING IN THE NOTES OR THE COMMON STOCK ISSUABLE UPON THEIR CONVERSION. YOU SHOULD READ THIS ENTIRE PROSPECTUS CAREFULLY.

EPIX PHARMACEUTICALS, INC.

We are a leading developer of targeted contrast agents, designed to improve the diagnostic quality of images produced by magnetic resonance imaging, or MRI. MRI has been established as the imaging technology of choice for a broad range of applications, including the identification and diagnosis of a variety of medical disorders. MRI is safe, relatively cost-effective and provides three-dimensional images that enable physicians to diagnose and manage disease in a minimally invasive manner. We are currently developing two products for use in MRI to improve the diagnosis of multiple cardiovascular diseases affecting the body's arteries and veins, collectively known as the vascular system. In December 2003, we submitted a New Drug Application, or NDA, for MS-325, our principal product under development, to the U. S. Food and Drug Administration, or FDA. In February 2004, we were notified by the FDA that the NDA for MS-325 had been accepted for filing and had been designated for a standard review cycle. In October 2004, we were notified by the FDA that it had extended the action date for completion of its review of MS-325 by 90 days to January 2005 and we are in discussions with the FDA about open review issues. If our NDA for MS-325 is approved by the FDA, our partner, Schering AG, will have primary responsibility for the product launch and marketing of MS-325. In June 2004, Schering AG submitted MS-325 for marketing approval in the European Union.

OUR PRODUCT CANDIDATES

MS-325. Our principal product under development, MS-325, is designed to provide visual imaging of the vascular system, through a type of MRI known as magnetic resonance angiography, or MRA. We believe that MS-325-enhanced MRA has

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

the potential to improve the diagnosis of multiple diseases of the vascular system, including vascular disease outside the heart, known as peripheral vascular disease, and diseases that affect the coronary arteries and reduce blood flow to the heart. Our initial target indication for MS-325 is for use in MRA imaging of peripheral vascular disease. We are also developing MS-325 for imaging the coronary arteries and the heart and initiated Phase II cardiac studies in July 2004.

We believe that MS-325 will significantly enhance the quality of MRI and provide physicians with a minimally-invasive and cost-effective method for diagnosing vascular disease. We also believe that MS-325-enhanced MRA has the potential to simplify the diagnosis of vascular disease and to replace a significant portion of X-ray angiographic procedures, a highly invasive and expensive catheter-based method most frequently used for the detection of vascular disease. In 2003, approximately 8.5 million angiographic procedures were performed in the U.S. for the diagnosis of diseases of the vascular system, of which 4.6 million procedures were by way of X-ray angiography. We believe that MS-325-enhanced MRA will be a less invasive method of imaging a patient's vascular anatomy for the evaluation of disease.

CLINICAL TRIAL RESULTS AND NDA. We have submitted an NDA for MS-325 based on a 780-patient Phase III clinical trial program designed to test the safety and efficacy of MS-325 for the imaging of peripheral vascular disease. We conducted four Phase III trials to determine the efficacy of MS-325-enhanced MRA for the detection of vascular disease in the lower abdomen and pelvic regions, in the renal arteries of the kidneys and in the pedal arteries of the feet. All four trials in the Phase III program for MS-325 met their primary endpoints. In communications with the FDA in October 2004, the FDA indicated that its principal open review questions relate to the non-contrast MRA comparator scans used in the Phase III trials and to the statistical treatment of uninterpretable scans. We have subsequently provided detailed responses to the FDA's questions. Although we remain confident in the safety and efficacy profile of MS-325, the FDA's review of the additional analyses and interpretations we have provided could adversely affect the approval, timeliness of approval or labeling of MS-325.

MRI IN THE DIAGNOSIS OF VASCULAR DISEASE. The use of MRI has grown steadily over the past 10 years due to reduced cost and improved imaging capabilities. MRI provides an effective method for diagnosing a broad range of diseases. MRI manufacturers have improved both the hardware and software used in their systems, reducing the procedure time and significantly enhancing image resolution. While MRI is currently used extensively to image many organs and tissues in the body, its use in imaging the vascular system has been limited. Currently available MRI contrast agents for MRA are not optimal for the diagnosis of vascular disease in many vascular beds due to the rapid leakage of the injectable contrast agent from the vascular system into the surrounding tissue, usually within 30 to 60 seconds. As a result of this leakage, the time available to image blood vessels with these contrast agents is too short to obtain the high resolution images necessary for broad clinical application. In addition, performance of MRA using currently approved contrast agents generally requires specialized equipment and specially trained staff. None of the currently available MRI contrast agents

1

is approved by the FDA for use in MRA. In 2003, approximately 2.7 million MRAs were performed in the U.S., an increase of 22% over 2002.

MS-325-ENHANCED MRA. MS-325 is specifically designed to enhance the quality of magnetic resonance images of the arteries and veins and to provide physicians with a superior method for diagnosing vascular disease. MS-325 is a small

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

molecule, which produces an MRI signal because of the presence of gadolinium, a magnetically active element favored by clinicians for enhancing magnetic resonance images. MS-325 is designed with our proprietary technology to bind reversibly to albumin, the most common protein in the blood. Using standard MRI techniques, MS-325-enhanced MRA produces a strong magnetic signal, resulting in bright images of the blood against the dark background of surrounding tissue. Because of its affinity for albumin, MS-325 remains at high concentrations in the bloodstream throughout the MRI exam, providing the extended, approximately 60-minute image time and signal strength required to obtain a high resolution image of multiple regions of the vascular system. Like most currently available general use MRI contrast agents, MS-325 is designed to be safely eliminated from the body through the kidneys over time. In addition, in clinical studies of renally-compromised patients, MS-325 appeared safe and well tolerated, a potentially important feature given the renal risks of X-ray angiography.

EP-2104R. We are developing a second targeted contrast agent, EP-2104R, which is designed to illuminate and identify blood clots using MRI. Finding blood clots is of critical medical significance in the evaluation and diagnosis of patients with stroke, chest pain, heart attack, irregular heartbeat and clots in the lungs and legs. We designed EP-2104R to bind reversibly to fibrin, the dominant protein found in clots. In pre-clinical studies, EP-2104R has been shown to enhance the ability of MRI to image clots. We announced the initiation of human clinical studies for EP-2104R in August 2004.

OUR STRATEGIC COLLABORATIONS

We have established collaborations with large pharmaceutical companies to enhance our internal development capabilities and to offset a substantial portion of the financial risk of developing our product candidates. At the same time, we maintain substantial rights to product candidates covered by these collaborations, which provide us the opportunity to participate in a significant portion of the potential economic benefit from their successful development and commercialization. Our most significant collaborations involve Schering AG for the development and commercialization of MS-325, EP-2104R and for the discovery of other MRI contrast agents. We have also formed collaborations with the three leading MRI scanner manufacturers, GE Medical Systems (now GE Healthcare), Philips Medical Systems and Siemens Medical Systems, to develop advanced imaging techniques and tools designed to facilitate the use of MS-325-enhanced MRA.

OUR STRATEGY

Our objective is to become a worldwide leader in MRI contrast agents by developing and commercializing products using our proprietary technology platform. We intend to pursue this strategy through internal product development efforts, collaborations with strategic partners and by acquiring the rights to complementary technologies. We also intend to expand the potential applications for our current product candidates. We believe we can build on our leadership in developing targeted contrast agents for MRI through further research and development programs in cardiovascular imaging and therapeutics. In addition, we intend to consider other opportunities to expand beyond MRI.

CORPORATE INFORMATION

We incorporated in Delaware in 1988 and commenced operations in 1992. Our principal executive offices are located at 161 First Street, Cambridge, Massachusetts 02142-1118 and our telephone number is (617) 250-6000. Our website is located at <http://www.epixpharma.com>. Our Corporate Code of Conduct and Ethics as well as our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and all amendments to these reports, which have been filed with the SEC, are available to you free of charge through the Investor Relations section on our website as soon as reasonably practicable after such materials have been electronically filed

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

with, or furnished to, the SEC. We do not intend for the other information contained in our website to be considered a part of this prospectus.

2

THE OFFERING

Issuer.....	EPIX Pharmaceuticals, Inc.
Notes Offered.....	\$100,000,000 aggregate principal amount of 3.00% Convertible S
Issue Price.....	The notes have been issued at a price of 100% of their princip \$1,000 per note, plus accrued interest, if any, from December
Maturity Date.....	June 15, 2024
Ranking.....	The notes will: <ul style="list-style-type: none">- be our senior unsecured obligations;- be subordinated in right of payment to up to \$15,000,000 p interest on existing and future indebtedness under our Loa 26, 2003, as amended, with Schering AG, referred to as our facility;- rank on parity in right of payment with all of our existin debt other than our Schering AG loan facility; and- rank senior in right of payment to all of our future debt the notes.
	The notes also are effectively subordinated in right of paymen future secured debt, to the extent of such security, and will subordinated in right of payment to any liabilities of any sub create in the future.
Interest.....	The notes will bear interest at 3.00% per annum on the princip payable semi-annually in arrears on June 15 and December 15 of December 15, 2004.
Conversion Rights.....	You may convert the notes into shares of our common stock at a 33.5909 shares per \$1,000 principal amount of notes (which rep conversion price of \$29.77 per share), subject to adjustment, business on the final maturity date under any of the following <ul style="list-style-type: none">- during any fiscal quarter prior to June 15, 2019, if the c our common stock for at least 20 trading days in the perio trading days ending on the eleventh trading day of any fis than 120% of the conversion price in effect on such eleven (initially 120% of \$29.77, or \$35.72);- if the notes are called for redemption;- if we make specified distributions on our common stock or corporate transactions; or

3

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

- during the five trading day period immediately following a trading day period in which the average trading price per of the notes for such five day period is less than 98% of closing sale price of our common stock on a given day multiplied by the number of shares of common stock into which each \$1,000 principal amount is convertible.

See "Description of Notes - Conversion of Notes."

Redemption..... On or after June 15, 2009, we may redeem the notes, in whole or in part, at the following percentages of the principal amount of the notes, plus accrued interest and additional interest, if any, to, but excluding, the date of redemption:

DATE ----	REDEMPTION PRICE -----
June 15, 2009 to June 14, 2010.....	100.857%
June 15, 2010 to June 14, 2011.....	100.429%
June 15, 2011 and thereafter.....	100.000%

We will give you at least 20 days' notice of any such redemption of the notes in whole or in part, other than a redemption of less than 10% of the cumulative principal amount of the notes, then we will be required to repay the then outstanding principal amount, together with accrued and unpaid interest, under our Schering AG loan facility.

Repurchase at the Option of the Holder..... You may require us to repurchase the notes, in whole or in part, at the option of the holder on or before June 14, 2014 and June 14, 2019 for a repurchase price equal to 100% of the principal amount of the notes plus accrued and unpaid interest and additional interest, if any, to, but excluding, the date of redemption. Before we repurchase the notes in whole or in part, we will be required to repay the then outstanding principal amount, together with accrued and unpaid interest, under our Schering AG loan facility.

Sinking Fund..... None.

Repurchase at the Option of the Holder Upon a Designated Event..... Upon a change in control or a termination of trading (each as defined in "Description of Notes--Repurchase at the Option of the Holder Upon a Designated Event"), each holder of the notes may require us to repurchase the notes at 100% of the principal amount of the note, plus accrued and additional interest, if any, to, but excluding, the date of change in control we may, at our option, elect to pay the repurchase price in shares of our common stock valued at a discount of 5% from the market price of the common stock, or any combination thereof, subject to our satisfaction of the conditions set forth in "Description of Notes--Repurchase at the Option of the Holder Upon a Designated Event." Upon a termination of trading we will be required to repay the then outstanding principal amount, together with accrued and unpaid interest, under our Schering AG loan facility.

Registration Rights..... We have agreed to use our reasonable best efforts to keep a resale registration statement with respect to the resale of the notes and shares of common stock.

	issuable upon conversion of the notes effective during the period of the registration statement.
	"Description of Notes - Registration Rights."
Additional Interest.....	If the prospectus included in the shelf registration statement provides that the registrant will pay additional interest more than 30 days in any three-month period or more than 90 days in any six-month period, the additional interest will accrue equal to 0.25% per annum for the period from the date of the registration statement and including the date on which the registration default has occurred, to, but excluding, the date on which the registration default is cured. Additional interest will be paid semi-annually in arrears.
DTC Eligibility.....	The notes have been issued in book-entry form and will be represented by permanent global certificates deposited with a custodian for a name of a nominee of the Depository Trust Company, or DTC, in the name of the registrant. Beneficial interests in the notes will be shown on, and transferred, only through, records maintained by DTC and its direct and indirect participants. Such interest may not be exchanged for certificated securities in certain circumstances. See "Description of Notes - Global Note, Book-Entry Form."
Trading	The notes are not listed on any national securities exchange. The notes are available for trading on The PORTAL(SM) Market; however, we provide no assurance of the liquidity of, or trading markets for, the notes.
Absence of a Public Market.....	There is currently no public market for the notes. An active market may develop for the notes.
Nasdaq National Market Symbol Of our Common Stock.....	"EPIX."

RISK FACTORS

AN INVESTMENT IN OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD CAREFULLY CONSIDER THE FOLLOWING RISK FACTORS, AND OTHER INFORMATION IN OUR PERIODIC REPORTS FILED WITH THE SEC. IF ANY OF THE FOLLOWING RISKS ACTUALLY OCCUR, OUR BUSINESS, FINANCIAL CONDITION OR RESULTS OF OPERATIONS COULD BE MATERIALLY AND ADVERSELY AFFECTED.

RISKS RELATED TO OUR BUSINESS

WE HAVE NEVER GENERATED REVENUES FROM COMMERCIAL SALES OF OUR PRODUCTS AND, IF MS-325 DOES NOT RECEIVE APPROVAL FROM THE FOOD AND DRUG ADMINISTRATION (FDA), WE WILL HAVE NO PRODUCTS TO MARKET IN THE FORESEEABLE FUTURE.

We currently have no products for sale and we cannot guarantee that we will ever have marketable products. MS-325 and EP2104R are currently our only product candidates that have undergone human clinical trials and we cannot be certain that any of our other development projects will yield a product candidate suitable for substantial human clinical testing. As a result, our initial revenues and profits from commercial sales of our products, if any, will be derived from sales of MS-325. In October 2004, we were notified by the FDA that it had extended the action date for completion of its review of the MS-325 NDA by 90 days, to January 2005. In communications with the FDA in October 2004, the FDA indicated that its principal open review questions relate to the

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

non-contrast MRA comparator scans used in the Phase III trials and to the statistical treatment of uninterpretable scans. We have subsequently provided detailed responses to the FDA's questions. Although we remain confident in the safety and efficacy profile of MS-325, the FDA's review of the additional analyses and interpretations we have provided could adversely affect the approval, timeliness of approval or labeling of MS-325. If MS-325 fails to achieve regulatory approval and market acceptance, and if we do not succeed in bringing any of our other product candidates to human clinical trials and achieve regulatory approval and market acceptance for them, our business will fail, and as a result, you may lose all or part of your investment.

To date, we have received revenues from payments made under licensing, royalty arrangements, and product development and marketing agreements with strategic collaborators. In particular, our revenue for the nine months ended September 30, 2004 was \$10.1 million and consisted of \$6.9 million from the product development portion of our collaboration agreements with Schering AG for MS-325, EP-2104R and MRI research, \$2.7 million from a patent licensing and royalty agreement with Bracco and \$506,000 of license fee revenue related to the strategic collaboration agreements for the development, manufacturing and marketing of MS-325 with Schering AG and Tyco/Mallinckrodt. In addition to these sources of revenue, we have financed our operations to date through public stock offerings, private sales of equity securities, debt financing and equipment lease financings.

Although we are currently in compliance with the terms of our collaboration agreements, the revenues derived from them are subject to fluctuation in timing and amount. We may not receive anticipated revenue under our existing collaboration or licensing agreements and, additionally, these agreements may be terminated upon certain circumstances. Therefore, to achieve profitable and sustainable operations, we, alone or with others, must successfully develop, obtain regulatory approval for, introduce, market and sell products. We may not receive revenue from the sale of any of our product candidates for the next several years because we may not:

- successfully complete our product development efforts;
- obtain required regulatory approvals in a timely manner, if at all;
- manufacture our product candidates at an acceptable cost and with acceptable quality; or
- successfully market any approved products.

As a result, we may never generate revenues from sales of our product candidates and our failure to generate positive cash flow could cause our business to fail.

WE ANTICIPATE FUTURE LOSSES AND MAY NEVER BECOME PROFITABLE.

Our future financial results are uncertain. We have experienced significant losses since we commenced operations in 1992. Our accumulated net losses as of September 30, 2004 were approximately \$150.2 million. These losses have primarily resulted from expenses associated with our research and development activities, including pre-clinical and clinical trials, and general and administrative expenses. We anticipate that our research and development expenses will remain significant in the future and we expect to incur losses over at least the next two years as we continue our research and development efforts, pre-clinical testing and clinical trials and as we implement manufacturing, marketing and sales programs. As a result, we cannot predict when

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

we will become profitable, if at all, and if we do, we may not remain profitable for any substantial period of time. If we fail to achieve profitability within the timeframe expected by investors, the market price of our common stock may decline and consequently our business may not be sustainable.

IF THE MARKET DOES NOT ACCEPT OUR TECHNOLOGY AND PRODUCTS, WE MAY NOT GENERATE SUFFICIENT REVENUES TO ACHIEVE OR MAINTAIN PROFITABILITY.

The commercial success of MS-325 and our other product candidates, when and if approved for marketing by the FDA and corresponding foreign agencies, depends on their acceptance by the medical community and third party payors as clinically useful, cost-effective and safe. While contrast agents are currently used in an estimated 25% to 35% of all MRI exams, there are no MRI agents approved by the FDA for vascular imaging. Furthermore, clinical use of MRA has been limited and use of MRA for some vascular disease imaging has occurred mainly in research and academic centers. Market acceptance, and thus sales of our products, will depend on several factors, including:

- safety;
- cost-effectiveness relative to alternative vascular imaging methods;
- availability of third party reimbursement;
- ease of administration;
- clinical efficacy; and
- availability of competitive products.

Market acceptance will also depend on our ability and that of our strategic partners to educate the medical community and third party payors about the benefits of diagnostic imaging with MRA enhanced with MS-325 compared to imaging with other technologies. MS-325 represents a new approach to imaging the non-coronary vascular system, and market acceptance both of MRA as an appropriate imaging technique for the non-coronary vascular system, and of MS-325, is critical to our success. If MS-325 or any of our other product candidates, when and if commercialized, do not achieve market acceptance, we may not generate sufficient revenues to achieve or maintain profitability.

WE MAY NEED TO RAISE ADDITIONAL FUNDS NECESSARY TO FUND OUR OPERATIONS, AND IF WE DO NOT DO SO, WE MAY NOT BE ABLE TO IMPLEMENT OUR BUSINESS PLAN.

Since inception, we have funded our operations primarily through our public offerings of common stock, private sales of equity securities, debt financing, equipment lease financings and product development revenue, royalty and license payments from our strategic partners. Although we believe that we have adequate funding for the foreseeable future, we may need to raise substantial additional funds for research, development and other expenses, through equity or debt financings, strategic alliances or otherwise. Our future liquidity and capital requirements will depend upon numerous factors, including the following:

- the progress and scope of clinical trials;
- the timing and costs of filing future regulatory submissions;

7

- the timing and costs required to receive both U.S. and foreign governmental approvals;

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

- the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights;
- the extent to which our products gain market acceptance;
- the timing and costs of product introductions;
- the extent of our ongoing and any new research and development programs;
- the costs of training physicians to become proficient with the use of our products; and
- the costs of developing marketing and distribution capabilities.

Based on our current plans, expense rates, targeted timelines and our view regarding acceptance of MS-325 in the marketplace, we estimate that cash, cash equivalents and marketable securities on hand as of September 30, 2004 will be sufficient to fund our operations until we turn cash flow positive. If we consider other opportunities or change our planned activities, we may require additional funding. As of September 30, 2004, we had outstanding the entire \$15.0 million loan facility available from Schering AG as part of our MRI research collaboration. We repaid the \$15.0 million loan, plus accrued interest, in October 2004. We expect to redraw the \$15.0 million loan as needed, but could be unable to draw under the terms of the loan if we fail to meet certain covenants or conditions precedent in the loan.

WE HAVE A LIMITED MANUFACTURING CAPABILITY AND WE INTEND TO RELY ON OUTSOURCED MANUFACTURING TO PRODUCE MS-325.

We do not have, nor do we currently have plans to develop, full-scale manufacturing capability for MS-325. While we have manufactured small amounts of MS-325 for research and development efforts, we rely on, and we intend to continue to rely on, Tyco/Mallinckrodt as the primary manufacturer of MS-325 for any future human clinical trials and commercial use. In the event that Tyco/Mallinckrodt fails to fulfill its manufacturing responsibilities satisfactorily, Schering AG has the right to purchase MS-325 from a third party or to manufacture the compound itself. However, either course of action could materially delay the manufacture and development of MS-325. Schering AG may not be able to find an alternative manufacturer. In addition, Schering AG may not be able to manufacture MS-325 itself in a timely manner. If we experience a delay in manufacturing, it could result in a delay in the approval or commercialization of MS-325 and have a material adverse effect on our business, financial condition and results of operations.

IF MRI MANUFACTURERS ARE NOT ABLE TO ENHANCE THEIR HARDWARE AND SOFTWARE SUFFICIENTLY, WE WILL NOT BE ABLE TO COMPLETE DEVELOPMENT OF OUR CONTRAST AGENT FOR THE EVALUATION OF CARDIAC INDICATIONS.

Although MRI hardware and software is sufficient for the evaluation of non-coronary vascular disease, which is our primary target indication, we believe that the technology is not as advanced for cardiac applications, which will be our next clinical development target. Our initial NDA filing for MS-325 is related to non-coronary vascular disease. Imaging sequences on scanners currently allow for the use of MS-325-enhanced MRA for diagnosing non-coronary vascular disease, our lead indication. Based on feasibility studies we completed in 2001, however, the imaging technology available for cardiac applications, including coronary angiography and cardiac perfusion imaging, was not developed to the point where there was clear visualization of the cardiac region, due to the effects of motion from breathing and from the beating of the heart. We recently initiated feasibility studies for cardiac indications using available software and hardware that can be adapted for coronary and cardiac perfusion

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

data acquisition. We have entered into research collaborations with GE Healthcare, Siemens Medical Systems and Philips Medical Systems that include development and optimization of cardiac imaging sequences with contrast agents like MS-325. We have also collaborated with a number of leading academic institutions to help optimize cardiac imaging with MS-325. While

8

significant progress has been made in developing these clinical applications for cardiac imaging, we do not know when, or if, these techniques will enable MS-325 to provide clinically relevant images in cardiac indications. If MRI device manufacturers are not able to enhance their scanners to perform clinically useful cardiac imaging, we will not be able to complete our development activities of MS-325 for that application, thereby reducing the potential market for a product in this area.

OUR COMPETITORS MAY HAVE GREATER FINANCIAL RESOURCES, SUPERIOR PRODUCTS OR PRODUCT CANDIDATES, MANUFACTURING CAPABILITIES AND/OR MARKETING EXPERTISE, AND WE MAY NOT BE ABLE TO COMPETE WITH THEM SUCCESSFULLY.

Medical technology is subject to intense competition and rapid technological change. We have many competitors, including pharmaceutical, biotechnology and chemical companies, a number of which, including our strategic partners, are actively developing and marketing products that could compete with our product candidates. Specifically, although there are no MRI contrast agents that are FDA-approved for vascular imaging, there are a number of general use MRI agents approved for other clinical applications in the U.S. and certain foreign markets that are likely to compete with MS-325, if MS-325 is approved for MRA. Collectively, these general use agents are referred to as "extracellular" agents, and include: Magnevist(R) and Gadovist(R) by Schering AG, Dotarem(R) by Guerbet, S.A., Omniscan(R) by Amersham Health, ProHance(R) and MultiHance(R) by Bracco and OptiMark(R) by Tyco/Mallinckrodt. Extracellular agents are broadly accepted in the market as general use MRI agents. None of these agents is currently approved by the FDA for MRA, but their use in applications outside of the primary indication described in the product labeling is increasing and could present significant adoption hurdles for MS-325 if such uses become entrenched in the marketplace. Additionally, we believe that some of these general use agents are in clinical trials for an MRA indication. However, these general use agents are not specifically designed for vascular imaging, and because they "leak" out of the blood vessels into the extracellular space, they do not provide the extended imaging window associated with MS-325. In addition, we are aware of five agents that are under clinical development for use with MRA: Schering AG's Gadomer-17 and SHU555C, Guerbet's Vistarem(R), Bracco's B-22956/1 and Advanced Magnetix' Code 7228. Public information on the status of clinical development and performance characteristics for these agents is limited. However, many of these competitors have substantially greater capital and other resources than we do and may represent significant competition for us. These companies may succeed in developing technologies and products that are more effective or less costly than any of those that we may develop. In addition, these companies may be more successful than we are in developing, manufacturing and marketing products.

Moreover, there are several well-established medical imaging methods that currently compete and will continue to compete with MRI, including Digital Subtraction Angiography, or DSA, which is an improved form of X-ray angiography, computed tomography angiography, or CTA, nuclear medicine and ultrasound, and there are companies that are actively developing the capabilities of these competing methods to enhance their effectiveness in cardiovascular system imaging. DSA is currently considered the clinical gold standard for cardiovascular angiography, but all methods offer advantages and disadvantages, which are described in the following table:

	ADVANTAGES -----	DISADVANTAGES -----
MRI	<ul style="list-style-type: none"> - Three-dimensional images - Minimally-invasive - Favorable safety profile - High quality images 	<ul style="list-style-type: none"> - Requires high level of - Inadvisable for patient - Less widely available
CT Angiography	<ul style="list-style-type: none"> - Rapid and easy data acquisition 	<ul style="list-style-type: none"> - Radiation - Varying levels of toxicity - Calcium and bone artifact - Time consuming post-pro
DSA (X-ray angiography)	<ul style="list-style-type: none"> - Significant clinical experience - Opportunity to treat in same procedure - Highest resolution 	<ul style="list-style-type: none"> - Invasive - Radiation - Varying levels of toxicity - Significant safety risk - Two-dimensional images - Expensive - Patient recuperation time
Ultrasound	<ul style="list-style-type: none"> - Low cost - Fast - Widely available - Non-invasive 	<ul style="list-style-type: none"> - Operator dependent - Lack of anatomic detail - Bone precludes use in - Inability to visualize

We cannot guarantee that we will be able to compete successfully in the future, or that developments by others will not render MS-325 or our future product candidates obsolete or non-competitive, or that our collaborators or customers will not choose to use competing technologies or products. Any inability to compete successfully on our part will have a materially adverse impact on our operating results.

WE CURRENTLY DEPEND ON OUR STRATEGIC COLLABORATORS FOR SUPPORT IN PRODUCT DEVELOPMENT AND THE REGULATORY APPROVAL PROCESS, AND, IN THE FUTURE, WILL DEPEND ON THEM FOR PRODUCT MARKETING SUPPORT AS WELL. THESE EFFORTS MAY SUFFER IF WE EXPERIENCE PROBLEMS WITH OUR COLLABORATORS.

We depend on strategic collaborators for support in product development and the regulatory approval process as well as a variety of other activities including manufacturing, marketing and distribution of our products in the U.S. and abroad, when, and if, the FDA and corresponding foreign agencies approve our product candidates for marketing. To date, we have entered into strategic alliances and collaborations with Schering AG, Tyco/Mallinckrodt, GE Healthcare, Philips Medical Systems and Siemens Medical Systems. Four of our key agreements include three collaboration agreements with Schering AG, to perform joint research and to develop and commercialize MS-325, EP-2104R and other MRI vascular agents worldwide, and an agreement with Tyco/Mallinckrodt, granting Tyco/Mallinckrodt rights to enter into an agreement with Schering AG to manufacture MS-325 for clinical development and commercial use. We may not receive milestone payments from these alliances should MS-325 or EP-2104R fail to meet certain performance targets in development and commercialization. Further, our receipt of revenues from strategic alliances is affected by the level of efforts of our collaborators. Our collaborators may not devote the resources necessary to complete development, and commence marketing of MS-325,

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

EP-2104R or other products in their respective territories, or they may not successfully market MS-325, EP-2104R or other products. In addition, Schering AG and Tyco/Mallinckrodt currently manufacture imaging agents for other technologies that will compete against MS-325 and Schering AG will be responsible for setting the price of the product worldwide. However, Schering AG may not set prices in a manner that maximizes revenues for us. We are currently in compliance with the terms of these agreements, and although we have filed an NDA, our failure to receive future milestone payments, or a

10

reduction or discontinuance of efforts by our partners would have a material adverse effect on our business, financial condition and results of operations.

Furthermore, our collaboration agreement with Schering AG may be terminated early under certain circumstances, including if there is a material breach of the agreement by either of us. In addition, we intend to seek additional collaborations with third parties, who may negotiate provisions that allow them to terminate their agreements with us prior to the expiration of the negotiated term under certain circumstances. If Schering AG or any other third party collaborator were to terminate its agreement with us or otherwise fail to perform its obligations under our collaboration or to complete them in a timely manner, we could lose significant revenue. If we are unable to enter into future strategic alliances with capable partners on commercially reasonable terms, we may delay the development and commercialization of future product candidates and could possibly postpone them indefinitely.

In addition, we rely on certain of our collaborators, such as GE Healthcare, Siemens Medical Systems and Philips Medical Systems, to develop software that can be used to enhance or suppress veins or arteries from MS-325-enhanced MRA images. Although not required for clinical use of MS-325, the ability to separate veins from arteries using MS-325-enhanced MRA may be useful to clinicians in reading MS-325-enhanced images for the evaluation of vascular disease. Therefore, if our collaborators do not develop or implement the required software successfully, some clinicians may not be able to easily interpret the information provided from MS-325-enhanced images and therefore may not be inclined to use the product. Our inability to market MS-325 successfully to some clinicians may have a material adverse effect on our business.

WE DEPEND ON EXCLUSIVELY LICENSED TECHNOLOGY FROM THE MASSACHUSETTS GENERAL HOSPITAL AND IF WE LOSE THIS LICENSE, IT IS UNLIKELY WE COULD OBTAIN THIS TECHNOLOGY ELSEWHERE, WHICH WOULD HAVE A MATERIAL ADVERSE EFFECT ON OUR BUSINESS.

Under the terms of a license agreement that we have with Massachusetts General Hospital, or MGH, we are the exclusive licensee to certain technology, including patents, which relate to our product candidates, including MS-325. The license agreement imposes various commercialization, sublicensing, royalty and other obligations on us. If we fail to comply with these and other requirements, our license could convert from exclusive to nonexclusive or terminate entirely. It is unlikely that we would be able to obtain this technology elsewhere. Any such event would mean that we would be unlikely to produce our product candidates, including MS-325, and would therefore have a material adverse effect on our business, financial condition and results of operations. Currently, we are in compliance with the terms of the license agreement, and we do not have any reason to believe that this license may be terminated.

WE DEPEND ON PATENTS AND OTHER PROPRIETARY RIGHTS, AND IF THEY FAIL TO PROTECT OUR BUSINESS, WE MAY NOT BE ABLE TO COMPETE EFFECTIVELY.

The protection of our proprietary technologies is material to our business

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

prospects. We pursue patents for our product candidates in the U.S. and in other countries where we believe that significant market opportunities exist. We own or have an exclusive license to patents and patent applications on aspects of our core technology as well as many specific applications of this technology. Specifically, patents and patent applications related to our core technology consist of two U.S. patents that are exclusively licensed to us from MGH, as well as their counterpart patents and applications in foreign countries; seven U.S. patents and their counterpart patents and applications in certain foreign countries that we own; 19 U.S. patent applications as well as their counterpart patents and applications in certain foreign countries and three U.S. provisional patent applications. One of our issued patents covers aspects of the process by which MS-325 is manufactured. Another issued patent covers the MS-325 composition of matter. Two of our patents cover certain methods of imaging with MS-325. We have eight patent applications relating to EP-2104R, fibrin binding peptides and methods of imaging. Even though we hold these patents and have made these patent applications, because the patent positions of pharmaceutical and biopharmaceutical firms, including ours, generally include complex legal and factual questions, our patent position remains uncertain. For example, because most patent applications are maintained in secrecy for a period after filing, we cannot be certain that the named applicants or inventors of the subject matter covered by our patent applications or patents, whether directly owned or licensed to us, were the first to invent or the first to file patent applications for such inventions. Third parties may oppose, challenge, infringe upon, circumvent or seek to invalidate existing or future patents owned by or licensed to us. A court or other agency with

11

jurisdiction may find our patents invalid, not infringed or unenforceable and we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future. Even if we have valid patents, these patents still may not provide sufficient protection against competing products or processes. If we are unable to successfully protect our proprietary methods and technologies, or, if our patent applications do not result in issued patents, we may not be able to prevent other companies from practicing our technology and, as a result, our competitive position may be harmed.

WE MAY NEED TO INITIATE LAWSUITS TO PROTECT OR ENFORCE OUR PATENTS AND OTHER INTELLECTUAL PROPERTY RIGHTS, WHICH COULD INCUR SUBSTANTIAL COSTS, AND WHICH COULD RESULT IN THE FORFEITURE OF THESE RIGHTS.

We may need to bring costly and time-consuming litigation against third parties in order to enforce our issued patents, protect our trade secrets and know how, or to determine the enforceability, scope and validity of proprietary rights of others. In addition to being costly and time-consuming, such lawsuits could divert management's attention from other business concerns. These lawsuits could also result in the invalidation or a limitation in the scope of our patents or forfeiture of the rights associated with our patents or pending patent applications. We may not prevail and a court may find damages or award other remedies in favor of an opposing party in any such lawsuits. During the course of these suits, there may be public announcements of the results of hearings, motions and other interim proceedings or developments in the litigation. Securities analysts or investors may perceive these announcements to be negative, which could cause the market price of our stock to decline. In addition, the cost of such litigation could have a material adverse effect on our business and financial condition.

OTHER RIGHTS AND MEASURES THAT WE RELY UPON TO PROTECT OUR INTELLECTUAL PROPERTY MAY NOT BE ADEQUATE TO PROTECT OUR PRODUCTS AND SERVICES AND COULD REDUCE OUR ABILITY TO COMPETE IN THE MARKET.

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

In addition to patents, we rely on a combination of trade secrets, copyright and trademark laws, nondisclosure agreements and other contractual provisions and technical measures to protect our intellectual property rights. While we require employees, collaborators, consultants and other third parties to enter into confidentiality and/or non-disclosure agreements where appropriate, any of the following could still occur:

- the agreements may be breached;
- we may have inadequate remedies for any breach;
- proprietary information could be disclosed to our competitors; or
- others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose such technologies.

If for any of the above reasons our intellectual property is disclosed or misappropriated, it would harm our ability to protect our rights and our competitive position. Moreover, several of our management and scientific personnel were formerly associated with other pharmaceutical and biotechnology companies and academic institutions. In some cases, these individuals are conducting research in similar areas with which they were involved prior to joining us. As a result, we, as well as these individuals, could be subject to claims of violation of trade secrets and similar claims.

OUR SUCCESS WILL DEPEND PARTLY ON OUR ABILITY TO OPERATE WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS, AND IF WE ARE UNABLE TO DO SO, WE MAY NOT BE ABLE TO SELL OUR PRODUCTS.

Our commercial success will depend, to a significant degree, on our ability to operate without infringing upon the patents of others in the U.S. and abroad. There may be pending or issued patents, held by parties not affiliated with us, relating to technologies we use in the development or use of certain of our contrast agents. For example, in November 2003, we entered into an Intellectual Property Agreement with Dr. Martin R. Prince, an early innovator in the field of MRA relating to "dynamic" MRA, which involves capturing MRA images during the limited time, typically 30 to 60 seconds, available for imaging with extracellular agents. In this Agreement, Dr. Prince made certain covenants and agreements and granted us certain discharges and releases in connection with the use of any magnetic

12

resonance imaging drug product containing MS-325. Dr. Prince also granted to us a non-exclusive license to make, use, sell or otherwise transfer MS-325. Although we are not aware of any other similar patent claims in the field of MRA, they may exist.

If any judicial or administrative proceeding upholds these or any third party patents as valid and enforceable, we could be prevented from practicing the subject matter claimed in such patents, or would be required to obtain licenses from the owners of each such patent, or to redesign our products or processes to avoid infringement. If we are unable to obtain a required license on acceptable terms, or are unable to design around these or any third party patents, we may be unable to sell our products, which would have a material adverse effect on our business.

EXTENSIVE GOVERNMENT REGULATION MAY DELAY OR PREVENT US FROM MARKETING MS-325 OR OUR OTHER PRODUCTS UNDER DEVELOPMENT.

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

We are subject to extensive U.S. and foreign governmental regulatory requirements and lengthy approval processes for our product candidates. The development and commercial use of our product candidates will be regulated by numerous federal, state, local and foreign governmental authorities in the U.S., including the FDA and foreign regulatory agencies. The nature of our research and development and manufacturing processes requires the use of hazardous substances and testing on certain laboratory animals. Accordingly, we are subject to extensive federal, state and local laws, rules, regulations and policies governing the use, generation, manufacture, storage, air emission, effluent discharge, handling and disposal of certain materials and wastes, as well as the use of and care for laboratory animals. Although we believe we are in compliance with all such laws and maintain policies and procedures to ensure that we remain in compliance, if we fail to comply or if an accident occurs, we may be exposed to legal risk and be required to pay significant penalties or be held liable for any damages that result. Such liability could exceed our financial resources. Furthermore, current laws could change and new laws could be passed that may force us to change our policies and procedures, an event which could impose significant costs on us.

Specifically, MS-325 is regulated by the FDA as a pharmaceutical product. The FDA has established substantial requirements for the research, development, manufacture and marketing of pharmaceutical products. The process required by the FDA before MS-325 and our other product candidates may be marketed in the U.S. typically involves the performance of pre-clinical laboratory and animal tests; submission of an investigational new drug application, or IND; completion of human clinical trials; submission of a NDA to the FDA; and FDA approval of the NDA.

This regulatory approval process is lengthy and expensive. Although some of our employees have experience in obtaining regulatory approvals, we have only limited experience in filing or pursuing applications necessary to gain regulatory approvals. Pre-clinical testing of our product development candidates is subject to Good Laboratory Practices as prescribed by the FDA and the manufacture of any products developed by us will be subject to Good Manufacturing Practices as prescribed by the FDA. We may not obtain the necessary FDA clearances and subsequent approvals in a timely manner, if at all. We cannot be sure as to the length of the clinical trial period or the number of patients that will be required to be tested in the clinical trials in order to establish the safety and efficacy of MS-325 or any of our future product candidates. Our clinical trials may not be successful, and we may not complete them in a timely manner. We could report serious side effects as the clinical trials proceed. Our results from early clinical trials may not predict results that we obtain in later clinical trials, even after promising results in earlier trials. The rate of completion of our clinical trials depends upon, among other things, the rate of patient enrollment and subsequent blinded reading of images and data analysis.

Furthermore, we, the FDA or other regulatory authorities may alter, suspend or terminate clinical trials at any time. For example, in September 2001, after discussions with the FDA, we expanded our initial target indication for MS-325 from one specific body region, the aortoiliac region, to a broader indication that includes the entire body's vascular system, except for the heart. This expansion required us to add two new clinical trials to our then existing Phase III clinical trial program, one to determine the efficacy of MS-325-enhanced MRA for the detection of vascular disease in the renal arteries, and another to determine the efficacy of MS-325-enhanced MRA for the detection of vascular disease in the pedal arteries. Although providing us with greater market potential for the sale of MS-325 upon approval, this change to our Phase III clinical trial program, and the associated delay in the start up of new clinical

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

centers, resulted in an approximate fifteen month delay in our NDA submission and an increase in costs associated with the program. If we do not successfully complete clinical trials for our product candidates, we will not be able to market these product candidates.

In addition, we may encounter unanticipated delays or significant costs in our efforts to secure necessary approvals. In October 2004, we were notified by the FDA that it had extended the action date for completion of its review of the MS-325 NDA by 90 days, to January 2005. In communications with the FDA in October 2004, the FDA indicated that its principal open review questions relate to the non-contrast MRA comparator scans used in the Phase III trials and to the statistical treatment of uninterpretable scans. We have subsequently provided detailed responses to the FDA's questions. Although we remain confident in the safety and efficacy profile of MS-325, the FDA's review of the additional analyses and interpretations we have provided could adversely affect the approval, timeliness of approval or labeling of MS-325. We may not obtain regulatory approval, even after the performance of clinical trials and the passage of time and the expenditure of such resources, for MS-325 or any other product candidates that we develop. Our analysis of data obtained from pre-clinical and clinical activities is subject to confirmation and interpretation by regulatory authorities, which could delay, limit or prevent FDA regulatory approval. In addition, the FDA may require us to modify our future clinical trial plans or to conduct additional clinical trials in ways that we cannot currently anticipate, resulting in delays in our obtaining regulatory approval. Delays in obtaining government regulatory approval could adversely affect our marketing as well as our ability to generate significant revenues from commercial sales.

Future U.S. legislative or administrative actions also could prevent or delay regulatory approval of our product candidates. Even if we obtain regulatory approvals, they may include significant limitations on the indicated uses for which we may market a product. A marketed product also is subject to continual FDA and other regulatory agency review and regulation. Later discovery of previously unknown problems or failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or withdrawal of the product from the market, as well as possible civil or criminal sanctions. Further, many academic institutions and companies conducting research and clinical trials in the MRI contrast agent field are using a variety of approaches and technologies. If researchers obtain any adverse results in pre-clinical studies or clinical trials, it could adversely affect the regulatory environment for MRI contrast agents generally. In addition, if we obtain marketing approval, the FDA may require post marketing testing and surveillance programs to monitor the product's efficacy and side effects. Results of these post-marketing programs may prevent or limit the further marketing of the monitored product. If we cannot successfully market our products, we will not generate sufficient revenues to achieve or maintain profitability.

Our strategic partners and we are also subject to numerous and varying foreign regulatory requirements governing the design and conduct of clinical trials and the manufacturing and marketing of our products. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval set forth above, and we may not obtain foreign regulatory approvals on a timely basis, if at all, thereby compromising our ability to market our products abroad.

PRODUCT LIABILITY CLAIMS COULD INCREASE OUR COSTS AND ADVERSELY AFFECT OUR RESULTS OF OPERATIONS.

The clinical testing of our approved products, and the manufacturing and

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

marketing of any approved products may expose us to product liability claims, and we may experience material product liability losses in the future. We currently have limited product liability insurance for the use of our product candidates in clinical research, but our coverage may not continue to be available on terms acceptable to us or adequate for liabilities we actually incur. We do not have product liability insurance coverage for the commercial sale of our products but intend to obtain such coverage when and if we commercialize our product candidates. However, we may not be able to obtain adequate additional product liability insurance coverage on acceptable terms, if at all. A successful claim brought against us in excess of available insurance coverage, or any claim or product recall that results in significant adverse publicity against us, may have a material adverse effect on our business and results of operations.

IF WE FAIL TO GET ADEQUATE LEVELS OF REIMBURSEMENT FROM THIRD PARTY PAYORS FOR OUR PRODUCT CANDIDATES AFTER THEY ARE APPROVED IN THE U.S. AND ABROAD, WE MAY HAVE DIFFICULTY COMMERCIALIZING OUR PRODUCT CANDIDATES.

14

We could be adversely affected by changes in reimbursement policies of governmental or private healthcare payors, particularly to the extent any such changes affect reimbursement for procedures in which our product candidates would be used. Failure by physicians, hospitals and other users of our products to obtain sufficient reimbursement from third party payors for the procedures in which our products would be used or adverse changes in governmental and private third party payors' policies toward reimbursement for such procedures may have a material adverse effect on our ability to market our products and consequently it could have an adverse effect on our business, financial condition and results of operations. If we obtain the necessary foreign regulatory approvals, market acceptance of our product candidates in international markets would be dependent, in part, upon the availability of reimbursement within prevailing healthcare payment systems. Reimbursement and healthcare payment systems in international markets vary significantly by country, and include both government sponsored health care and private insurance. We and our strategic partners intend to seek international reimbursement approvals, although we cannot assure you that any such approvals will be obtained in a timely manner, if at all, and failure to receive international reimbursement approvals could have an adverse effect on market acceptance of our products in the international markets in which such approvals are sought.

WE DEPEND ON OUR KEY PERSONNEL, THE LOSS OF WHOM WOULD HURT OUR ABILITY TO COMPETE.

Our future business and operating results depend in significant part upon the continued contributions of our senior management and key technical personnel. If any such personnel were to be hired away from us by a competitor, or if for any reason, they could not continue to work for us, we could have difficulty hiring officers with equivalent skills in general, financial and research management and our ability to achieve our business objectives or to operate or compete in our industry may be seriously impaired. Although we maintain key life insurance on our Chief Executive Officer, the loss of any key employee, the failure of any key employee to perform in his or her current position, or our inability to attract and retain skilled employees, as needed, could have a material adverse effect on our business, financial condition and results of operations. Our future business and operating results also depend in significant part upon our ability to attract and retain qualified management, operational and technical personnel. Competition for personnel is intense, and we may not be successful in attracting or retaining such personnel. If we were to lose these employees to our competitors, we could spend a significant amount of time and resources to replace them, which would impair our research and

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

development or commercialization efforts.

CERTAIN ANTI-TAKEOVER CLAUSES IN OUR CHARTER AND BY-LAW PROVISIONS AND IN DELAWARE LAW MAY MAKE AN ACQUISITION OF US MORE DIFFICULT.

Our Restated Certificate of Incorporation authorizes the Board of Directors to issue, without stockholder approval, up to 1,000,000 shares of preferred stock with voting, conversion and other rights and preferences that could adversely affect the voting power or other rights of the holders of Common Stock. The issuance of Preferred Stock or of rights to purchase Preferred Stock could be used to discourage an unsolicited acquisition proposal. In addition, the possible issuance of Preferred Stock could discourage a proxy contest, make more difficult the acquisition of a substantial block of our Common Stock or limit the price that investors might be willing to pay for shares of our Common Stock. The Restated Certificate provides for staggered terms for the members of the Board of Directors. A staggered Board of Directors and certain provisions of our By-laws and of Delaware law applicable to us could delay or make more difficult a merger, tender offer or proxy contest involving us. We, for example, are subject to Section 203 of the General Corporate Law of Delaware, which, subject to certain exceptions, restricts certain transactions and business combinations between a corporation and a stockholder owning 15% or more of the corporation's outstanding voting stock for a period of three years from the date the stockholder becomes an interested stockholder. These provisions may have the effect of delaying or preventing a change in control of us without action by the stockholders and, therefore, could adversely affect the price of our stock.

15

RISKS RELATED TO THE SECURITIES

WE HAVE SIGNIFICANTLY INCREASED OUR LEVERAGE AS A RESULT OF THE SALE OF THE NOTES.

In connection with the sale of the notes, we have incurred new indebtedness of \$100 million. The amount of our indebtedness could, among other things:

- make it difficult for us to make payments on the notes;
- make it difficult for us to obtain financing for working capital, acquisitions or other purposes on favorable terms, if at all;
- make us more vulnerable to industry downturns and competitive pressures; and
- limit our flexibility in planning for, or reacting to changes in, our business.

Our ability to meet our debt service obligations will depend upon our future performance, which will be subject to financial, business and other factors affecting our operations, many of which are beyond our control.

YOUR RIGHT TO RECEIVE PAYMENT ON THE NOTES IS JUNIOR TO THE RIGHTS OF THE HOLDERS OF THE SCHERING AG LOAN FACILITY AND WILL BE EFFECTIVELY SUBORDINATED TO CERTAIN OTHER DEBT.

The payment of principal and interest on the notes is contractually subordinated in right of payment to up to \$15.0 million aggregate principal amount of indebtedness under the Schering AG loan facility plus accrued and unpaid interest. The entire \$15 million amount under the loan agreement was available and drawn as of September 30, 2004. The entire outstanding balance

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

of \$15 million, plus accrued interest, was repaid to Schering AG in October 2004. Of the \$15 million available under the loan agreement with Schering AG, \$7.5 million is available to be redrawn by us until May of 2007 and the remaining \$7.5 million is available to be redrawn until May 2008, subject to specified conditions and covenants contained in the loan agreement. No payment will be able to be made in respect of the notes if the indebtedness under the

16

Schering AG loan facility is not paid when due or any other default under the Schering AG loan facility occurs and the maturity of such indebtedness is accelerated in accordance with its terms. Furthermore, if certain other defaults exist with respect to the Schering AG loan facility, the holders of such indebtedness will be able to prevent payments on the notes for specified periods of time. The Schering AG loan facility is secured by certain of our assets. Upon the occurrence of an event of default under the Schering AG loan facility, Schering AG will have the ability to foreclose on its security, and as a result there may be insufficient assets remaining to pay the amounts due on the notes.

The notes will also be structurally subordinated to the indebtedness and other liabilities of any subsidiaries that we may create in the future. In addition, the notes are not secured by any of our assets. As a result, the notes will be effectively subordinated to any secured debt that we or any future subsidiaries may incur to the extent of such security. As a result of the effective subordination of the notes to such debt, we may not have sufficient assets remaining to pay amounts due on any or all of the notes then outstanding in the event of our bankruptcy, liquidation or reorganization or upon acceleration of the notes.

In addition, before we redeem or repurchase for cash the notes in whole or in part, we will be required to repay the then outstanding principal amount, together with accrued and unpaid interest, under our Schering AG loan facility, other than a redemption by us of less than \$7.5 million cumulative principal amount of the notes. Upon the occurrence of a repayment of the Schering AG loan facility there may be insufficient funds available to pay the amounts due on the notes.

THE NOTES ARE NOT PROTECTED BY RESTRICTIVE COVENANTS, INCLUDING FINANCIAL COVENANTS.

We are not restricted under the indenture from incurring additional debt, including senior debt, or other liabilities. In addition, the indenture does not restrict us or any subsidiaries we may create in the future from paying dividends or issuing or repurchasing securities. If we or any future subsidiaries were to incur additional debt or liabilities, our ability to pay our obligations on the notes could be adversely affected. We are not required

17

under the indenture to meet any financial tests, such as those that measure our working capital, interest coverage, fixed charge coverage or net worth, in order to maintain compliance with the terms of the indenture covering the notes.

WE MAY BE UNABLE TO REPAY, REPURCHASE OR REDEEM THE NOTES.

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

At maturity, the entire outstanding principal amount of the notes will become due and payable by us. Upon a designated event, as defined in the indenture, or upon certain specified dates, you may require us to repurchase all or a portion of your notes. We may not have enough funds or be able to arrange for additional financing to pay the principal at maturity or to repurchase the notes tendered by the holders upon a designated event or upon such specified dates. Upon a designated event that is a change in control you may not necessarily receive cash as we may elect to pay you the purchase price in cash, shares of common stock that are publicly listed on a national securities exchange or on Nasdaq, or a combination of both.

In addition, before we redeem or repurchase for cash the notes in whole or in part, we will be required to repay the then outstanding principal amount, together with accrued and unpaid interest, under our Schering AG loan facility, other than a redemption by us of less than \$7.5 million cumulative principal amount of the notes. In addition, future credit agreements or other agreements relating to our indebtedness may restrict the redemption or repurchase of the notes and provide that a change in control constitutes an event of default. If the maturity date or a designated event occurs at a time when we are prohibited from repaying or repurchasing the notes, we could seek the consent of our lenders to purchase the notes or could attempt to refinance this debt. If we do not obtain the necessary consents or cannot refinance the debt on favorable terms, if at all, we will be unable to repay or repurchase the notes. Our failure to repay the notes at maturity or repurchase tendered notes would constitute an event of default under the indenture, which might constitute a default under the terms of our other debt.

18

YOU MAY NOT HAVE THE RIGHT TO REQUIRE US TO REPURCHASE THE NOTES IN THE EVENT OF CERTAIN MERGERS AND SIMILAR TRANSACTIONS.

The definition of change in control set forth in the indenture governing the notes is limited and certain mergers and similar transactions are not deemed a change in control. In such instance, you would not be able to require us to repurchase the notes. As a result, our obligation to offer to repurchase the notes upon a change in control will not necessarily afford you protection in the event of certain highly leveraged transactions, mergers or similar transactions in which we are involved.

THE CONTINGENT CONVERSION FEATURE OF THE NOTES COULD RESULT IN YOU RECEIVING LESS THAN THE VALUE OF THE COMMON STOCK INTO WHICH A NOTE WOULD OTHERWISE BE CONVERTIBLE.

The notes are convertible into shares of our common stock only if specified conditions are met. If the specific conditions for conversion are not met, you will not be able to convert your notes, and you may not be able to receive the value of the common stock into which the notes would otherwise be convertible.

CONVERSION OF THE NOTES WILL DILUTE THE OWNERSHIP INTEREST OF EXISTING STOCKHOLDERS.

The conversion of notes into shares of our common stock will dilute the ownership interests of existing stockholders. Any sales in the public market of the common stock issuable upon conversion of the notes could adversely affect prevailing market prices of our common stock. In addition, the existence of the notes may encourage short selling by market participants due to this dilution or facilitate trading strategies involving the notes and

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

our common stock.

THERE MAY NOT BE AN ACTIVE, LIQUID MARKET FOR OUR COMMON STOCK.

There is no guarantee that an active trading market for our common stock will be maintained on the Nasdaq Stock Market's National Market. Investors may not be able to sell their shares quickly or at the latest market price if trading in our stock is not active.

19

THE VALUE OF THE CONVERSION RIGHT ASSOCIATED WITH THE NOTES MAY BE SUBSTANTIALLY LESSEMED OR ELIMINATED IF WE ARE PARTY TO A MERGER, CONSOLIDATION OR OTHER SIMILAR TRANSACTION.

If we are party to a consolidation, merger or binding share exchange or transfer or lease of all or substantially all of our assets pursuant to which our common stock is converted into cash, securities or other property, at the effective time of the transaction, the right to convert a note into our common stock will be changed into a right to convert it into the kind and amount of cash, securities or other property which the holder would have received if the holder had converted its note immediately prior to the transaction. Accordingly, upon the consummation of any such transaction, the notes may not be convertible into shares of our common stock but rather convertible into securities of another entity. This change could substantially lessen or eliminate the value of the conversion privilege associated with the notes in the future. For example, if we were acquired in a cash merger, each note would become convertible solely into cash and would no longer be convertible into securities whose value would vary depending on our future prospects and other factors.

THE PRICE AT WHICH OUR COMMON STOCK MAY BE PURCHASED ON NASDAQ IS CURRENTLY LOWER THAN THE CONVERSION PRICE OF THE NOTES AND MAY REMAIN LOWER IN THE FUTURE.

Prior to electing to convert the notes, the noteholder should compare the price at which our common stock is trading in the market to the conversion price of the notes. Our common stock trades on the Nasdaq under the symbol "EPIX." On November 4, 2004, the last reported closing price of our common stock was \$16.03 per share. The initial conversion price of the notes is approximately \$29.77 per share. The market prices of our securities are subject to significant fluctuations. Such fluctuations, as well as economic conditions generally, may adversely affect the market price of our securities, including our common stock and the notes.

20

OUR STOCK PRICE HAS BEEN VOLATILE, AND AN INVESTMENT IN OUR STOCK COULD SUFFER A DECLINE IN VALUE, ADVERSELY AFFECTING THE VALUE OF THE NOTES OR THE SHARES INTO WHICH THOSE NOTES MAY BE CONVERTED.

The market prices of the capital stock of medical technology companies have historically been very volatile, and the market price of the shares of our common stock fluctuates. The market price of our common stock is affected by numerous factors, including:

- actual or anticipated fluctuations in our operating results;

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

- announcements of technological innovation or new commercial products by us or our competitors;
- new collaborations entered into by us or our competitors;
- developments with respect to proprietary rights, including patent and litigation matters;
- results of pre-clinical and clinical trials;
- conditions and trends in the pharmaceutical and other technology industries;
- adoption of new accounting standards affecting such industries;
- changes in financial estimates by securities analysts; and
- degree of trading liquidity in our common stock and general market conditions.

During the nine months ended September 30, 2004, the closing price of our common stock ranged from \$25.99 to \$15.86. The last reported closing price for our common stock on November 4, 2004 was \$16.03. If our stock price declines significantly, we may be unable to raise additional capital. Significant declines in the price of our common stock could also impede our ability to attract and retain qualified employees and reduce the liquidity of our common stock.

21

In addition, the stock market has from time to time experienced significant price and volume fluctuations that have particularly affected the market prices for the common stock of similarly staged companies. These broad market fluctuations may adversely affect the market price of our common stock. In the past, following periods of volatility in the market price of a particular company's securities, shareholders have often brought class action securities litigation against that company. Such litigation, if brought against us, could result in substantial costs and a diversion of management's attention and resources.

THE CONVERSION CONTINGENCY PROVISIONS OF THE NOTES MAY CAUSE A DECREASE IN OUR EARNINGS PER SHARE ON A DILUTED BASIS OR MAKE OUR REPORTED EARNINGS PER SHARE MORE VOLATILE, POTENTIALLY AFFECTING OUR SHARE PRICE AND THE AMOUNT YOU MAY RECEIVE UPON SALE OR CONVERSION OF THE NOTES.

Holders of the notes are entitled to convert the notes into shares of our common stock, among other circumstances, if the price of our common stock for the periods described in this prospectus is more than 120% of the conversion price of the notes. Under current accounting rules, unless and until this contingency or another conversion contingency is met, the shares of our common stock underlying the notes generally will not be included in the calculation of our basic and diluted earnings per share. If this contingency is met or would have been met if measured instead at the end of the reporting period, any diluted earnings per share that we may earn would be expected to decrease as a result of the inclusion of the underlying shares in the diluted earnings per share calculation. Volatility in our stock price could cause this condition to be met in one quarter and not in a subsequent quarter, increasing the volatility of our diluted earnings per share.

FUTURE SALES OF OUR COMMON STOCK IN THE PUBLIC MARKET COULD ADVERSELY AFFECT THE TRADING PRICE OF OUR COMMON STOCK, THE VALUE OF THE NOTES AND OUR ABILITY TO RAISE FUNDS IN NEW STOCK OFFERINGS.

Future sales of substantial amounts of our common stock in the public market, or the perception that such sales are likely to occur, could affect prevailing trading prices of our common stock and the value of the notes. As of September 30, 2004, we had:

- 23,089,499 shares of common stock outstanding;
- 3,687,615 shares of common stock underlying options outstanding at a weighted average exercise price of \$12.09 per share; and
- 710,702 shares of common stock that have been reserved for issuance upon future grants under our stock option plans; and
- 42,832 shares available for issuance under our employee stock purchase plan.

Because the notes generally are convertible into common stock only at a conversion price in excess of the recent trading price, a decline in our common stock price may cause the value of the notes to decline.

FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements can be identified by the use of forward-looking terminology such as "may," "will," "could," "expect," "anticipate," "estimate," "continue" or other similar expressions or the negative of such terms or other comparable terminology. You should carefully read statements that contain these words because they discuss our future expectations, contain projections of our future results of operations or of our financial position, or state other "forward-looking" information. We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control. The factors listed above in the section captioned "Risk Factors," as well as any cautionary language in this prospectus, provide examples of risks, uncertainties and events that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Before you invest, you should be aware that the occurrence of the events described in these risk factors and elsewhere in this prospectus could have a material adverse effect on our business, results of operations and financial position. We do not intend to update any forward-looking statements to conform to actual result unless required by law.

RATIO OF EARNINGS TO FIXED CHARGES

We have not recorded earnings for any fiscal year since inception and therefore have no earnings to cover fixed charges. Fixed charges consists of interest expense, amortization of debt issuance costs and a portion of rental

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

expense that we believe to be representative of interest. The following table discloses our dollar coverage deficiency. The ratio of earnings to fixed charges is not disclosed since it is a negative number in each year and period.

(in thousands)	NINE MONTHS ENDED SEPTEMBER 30, 2004	FOR THE YEARS ENDED DECEMBER 31,			
	2003	2002	2001	2000	
Deficiency of earnings available to cover					
fixed charges	\$ (15,192)	\$ (20,714)	\$ (22,098)	\$ (18,156)	\$ (22,957)

USE OF PROCEEDS

All of the notes and the shares of common stock issuable upon conversion of the notes are being sold by the selling holders or by their pledgees, donees, transferees or other successors in interest. We will not receive any proceeds from the sale of the notes or the shares of our common stock issuable upon conversion of the notes.

The selling holders will pay any underwriting discounts and commissions and expenses incurred by the selling holders for brokerage, accounting, tax or legal services or any other expenses incurred by the selling holders in disposing of the notes and the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the notes and shares covered by this prospectus, including, without limitation, all registration and filing fees, and fees and expenses of our counsel and our accountants.

24

DESCRIPTION OF NOTES

We issued the notes under an indenture dated as of June 7, 2004 between us, as issuer, and U.S. Bank National Association, as trustee. The notes and the shares of common stock issuable upon conversion of the notes are covered by a registration rights agreement. The indenture and the registration rights agreement have been publicly filed by us and they are incorporated herein by reference.

The following description is a summary of the material provisions of the notes, the indenture and the registration rights agreement. It does not purport to be complete. This summary is subject to and is qualified by reference to all the provisions of the indenture, including the definitions of certain terms used in the indenture. Wherever particular provisions or defined terms of the indenture or form of note are referred to, these provisions or defined terms are incorporated in this prospectus by reference. We urge you to read the indenture because it, and not this description, defines your rights as a holder of notes.

As used in this "Description of Notes" section, references to "EPIX," "we," "our" or "us" refer solely to EPIX Pharmaceuticals, Inc.

GENERAL

The notes are general, unsecured, senior obligations of EPIX, and are subordinated in right of payment to existing and future indebtedness under our

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

Schering AG loan facility and are effectively subordinated in right of payment to our existing and future secured debt, to the extent of the security, and the liabilities of any subsidiaries that we may create in the future as described under "--Ranking," but are senior in right of payment to all subordinated indebtedness that by its terms treats the notes as senior indebtedness. In addition, the notes will rank on a parity in right of payment with all of our existing and future unsecured senior debt, other than existing and future indebtedness under our Schering AG loan facility. The notes will not be obligations of, or guaranteed by, any subsidiaries that we may create in the future. The notes are convertible into common stock as described under "--Conversion of Notes."

The notes are limited to \$100 million aggregate principal amount and have been issued only in denominations of \$1,000 and multiples of \$1,000. We use the term "note" in this prospectus to refer to each \$1,000 principal amount of notes. The notes will mature on June 15, 2024, unless earlier converted, redeemed or repurchased.

We may from time to time repurchase the notes in open market purchases or negotiated transactions without prior notice to holders.

If we experience a change in control or a termination of trading, you will have the right to require us to repurchase your notes as described below under "--Repurchase at the Option of the Holder Upon a Designated Event." Holders of notes who have submitted a notice of repurchase will be entitled, upon a valid withdrawal of such notice, to convert the notes up to and including the business day immediately preceding the date fixed for repurchase.

Neither we nor any subsidiaries that we may create in the future will be subject to any financial covenants under the indenture. In addition, neither we nor any of such subsidiaries are restricted under the indenture from paying dividends, making investments, incurring debt, including additional senior indebtedness, granting liens or mortgages, or issuing or repurchasing our securities.

We will pay interest at a rate of 3.00% per annum, and additional interest, if any, semi-annually in arrears on June 15 and December 15 of each year, beginning December 15, 2004, to record holders at the close of business on the preceding June 1 and December 1, as the case may be. Interest will be computed on the basis of a 360-day year composed of twelve 30-day months. In addition, in the event of certain registration defaults, we will accrue additional amounts of interest. For a description of these additional amounts, see the section entitled "--Registration Rights of the Noteholders."

We will maintain an office or agency in the Borough of Manhattan, The City of New York, where we will pay the principal on the notes and where you may present the notes for conversion, registration of transfer or exchange for other denominations, which shall initially be an office or agency of the trustee. We may pay interest by check mailed to your address as it appears in the note register, provided that if you are a holder of an aggregate principal amount of notes in

25

excess of \$2,000,000, you shall be paid, at your written election, by wire transfer in immediately available funds. However, payments to The Depository Trust Company, New York, New York, which we refer to as DTC, will be made by wire transfer of immediately available funds to the account of DTC or its nominee.

The notes are not subject to a sinking fund provision and are not

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

subject to defeasance or covenant defeasance under the indenture.

CONVERSION OF NOTES

The conversion rate will be equal to the number of shares per \$1,000 principal amount of notes shown on the cover page of this prospectus subject to adjustment as specified below. The initial conversion rate is equivalent to a conversion price of approximately \$29.77. The conversion price is equal to \$1,000 principal amount of notes divided by the conversion rate. You will have the right to convert any portion of the principal amount of any note that is an integral multiple of \$1,000 into shares of our common stock as follows:

- if, on or prior to June 15, 2019, the closing sale price of our common stock, for at least 20 trading days in the period of the 30 consecutive trading days ending on the eleventh trading day of any fiscal quarter, is more than 120% of the then current conversion price of the notes, then you will have such conversion right until and including the eleventh trading day of the following fiscal quarter;
- if, on any date after June 15, 2019, the closing sale price of our common stock is more than 120% of the then current conversion price of the notes, then you will have such conversion right at all times thereafter;
- if we elect to call the notes for redemption, then you will have the right to convert the notes (or the portion of notes called for redemption, if less than all) until the close of business on the business day prior to the redemption date;
- if we distribute to all or substantially all holders of our common stock, rights, options or warrants entitling them to purchase our common stock at less than the closing sale price of our common stock on the day preceding the declaration for such distribution, then you will have such conversion right in the period described below;
- if we distribute to all or substantially all holders of our common stock, cash, assets, debt securities or capital stock of any subsidiaries that we may create in the future, which distribution has a per share value as determined by our board of directors exceeding 5% of the closing sale price of our common stock on the day preceding the declaration of such distribution, then you will have such conversion right in the period described below; or
- if we become a party to a consolidation, merger or sale of all or substantially all of our assets that constitutes a change in control as defined below under the heading "--Repurchase at the Option of the Holder Upon a Designated Event" or such event occurs that would have been a change in control but for one or both of the exceptions to the definition of change in control included below, under the same heading, in the paragraph immediately following subparagraph (3).

A note for which a holder has delivered a repurchase notice as described below may be surrendered for conversion only if the repurchase notice is withdrawn in accordance with the indenture.

In the case of the fourth and fifth bullet points above, we must notify holders of notes at least 20 days prior to the ex-dividend date for such distribution. Once we have given such notice, holders may surrender their notes for conversion at any time until the earlier of the close of business on the

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

business day prior to the ex-dividend date or our announcement that such distribution will not take place. If in the future we adopt a shareholder rights plan, you will not have any conversion right pursuant to the fourth bullet point above or otherwise, solely as a result of the issuance of rights pursuant to the shareholder rights plan. In the case of a distribution identified in the fourth or fifth bullet points above, the ability of a holder of notes to convert would not be triggered if the holder may participate in the distribution without converting. In the case of the sixth bullet point above, a holder may surrender notes for conversion at any time from and after the date which is 15 days prior to the anticipated effective date of the transaction until 15 days after the actual date of the

26

transaction. As used in this section, "closing sale price" generally means the last reported sale price of our common stock on the Nasdaq.

In addition, at any time prior to June 15, 2019, you may convert your notes into shares of our common stock for the five business-day period after any five consecutive trading-day period in which the average trading price for the notes in such period was less than 98% of the average conversion value (as defined below) for the notes during that period.

The "trading price" of the notes on any date of determination means the average of the secondary market bid quotations per \$1,000 principal amount of the notes obtained by the trustee for \$2,000,000 principal amount of the notes at approximately 3:30 p.m., New York City time, on such determination date from three independent nationally recognized securities dealers we select; provided that if three such bids cannot reasonably be obtained by the trustee, but two such bids are obtained, then the average of the two bids shall be used, and if only one such bid can reasonably be obtained by the trustee, then one bid shall be used. If the trustee cannot reasonably obtain at least one bid for \$2,000,000 principal amount of the notes from a nationally recognized securities dealer, then the trading price per \$1,000 principal amount of notes will be deemed to be less than 98% of the product of the closing sale price of our common stock and the number of shares issuable upon conversion of \$1,000 principal amount of the notes.

In connection with any conversion upon satisfaction of the trading price condition, the trustee shall have no obligation to determine the trading price of the notes unless we have requested such determination; and we shall have no obligation to make such request unless you provide us with reasonable evidence that the trading price per \$1,000 principal amount of notes would be less than 98% of the product of the closing sale price of our common stock and the number of shares of common stock issuable upon conversion of \$1,000 principal amount of the notes. At that time, we shall instruct the trustee to determine the trading price of the notes beginning on the next trading date and on each successive trading day until the trading price per \$1,000 principal amount of notes is greater than or equal to 98% of the product of the closing sale price of our common stock and the number of shares issuable upon conversion of \$1,000 principal amount of the notes.

We define conversion value in the indenture to be equal to the product of the closing sale price of our shares of common stock on a given day multiplied by the then current conversion rate, which is the number of shares of common stock into which each \$1,000 principal amount of the notes is convertible.

You may convert all or part of any note that is an integral multiple of \$1,000 as permitted above by delivering the note at the Corporate Trust Office of the trustee in the Borough of Manhattan, The City of New York, accompanied by

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

a duly signed and completed irrevocable conversion notice, a copy of which may be obtained by the trustee, and any applicable payments, including interest payments and payments in respect of taxes, if any. The conversion date will be the date on which the note and the duly signed and completed conversion notice are so delivered.

As promptly as practicable on or after the conversion date, we will issue and deliver to the trustee a certificate or certificates for the number of full shares of our common stock issuable upon conversion, together with payment in lieu of any fraction of a share. The certificate will then be sent by the trustee to the conversion agent for delivery to the holder. The shares of our common stock issuable upon conversion of the notes will be fully paid and nonassessable and will rank equally with the other shares of our common stock.

If you surrender a note for conversion on a date that is not an interest payment date, you will not be entitled to receive any interest for the period from the immediately preceding interest payment date to the conversion date, except as described below in this paragraph. In the case of any note that has been surrendered for conversion after any regular record date but before the next succeeding interest payment date:

- notwithstanding such conversion, interest payable on such interest payment date shall be payable on such interest payment date, and such interest shall be paid to the holder of such note as of such regular record date; and
- except for notes, or portions thereof, called for redemption or to be purchased or repurchased after a regular record date but on or prior to such interest payment date, or to the extent of overdue interest if we are in arrears on our interest payments as of the conversion date, such notes surrendered for conversion must be

27

accompanied by payment of an amount equal to the interest payable on such interest payment date on the principal amount of notes being surrendered for conversion.

No other payment or adjustment for interest, or any dividends in respect of our common stock, will be made upon conversion. Holders of our common stock issued upon conversion will not be entitled to receive any dividends payable to holders of our common stock as of any record time or date before the close of business on the conversion date. We will not issue fractional shares upon conversion. Instead, we will pay cash based on the closing sale price of our common stock at the close of business on the conversion date.

You will not be required to pay any taxes or duties relating to the issue or delivery of our common stock on conversion, but you will be required to pay any tax or duty relating to any transfer involved in the issue or delivery of our common stock in a name other than yours. Certificates representing shares of our common stock will not be issued or delivered unless all taxes and duties, if any, payable by you have been paid.

The conversion rate will be subject to adjustment for, among other things:

- dividends and other distributions payable in our common stock on shares of our common stock;
- the issuance to all holders of our common stock of rights, options or warrants (in any case other than in connection with a

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

shareholder rights plan) entitling them to subscribe for or purchase our common stock at less than the current market price of such common stock on the record date for stockholders entitled to receive such rights, options or warrants;

- subdivisions, combinations, splits, reverse splits and reclassifications of our common stock;
- distributions to all holders of our common stock of evidences of our indebtedness, shares of capital stock, cash or assets (if we distribute shares of capital stock of any subsidiary that we may create in the future, the conversion rate will be adjusted, if at all, based on the market value of the subsidiary stock so distributed relative to the market value of our common stock, in each case over a measurement period following the distribution), including securities, but excluding:
 - those dividends, rights, options, warrants and distributions referred to above;
 - dividends and distributions paid exclusively in cash; and
 - distributions upon mergers or consolidations discussed below.
- if we or a subsidiary that we may create in the future purchase our common stock (excluding options, warrants, purchase rights and other securities convertible, exchangeable or exercisable for common stock) pursuant to a tender or exchange offer for our common stock, to the extent that the cash and value of any other consideration included in the payment per share of common stock in such offer exceeds the closing sale price of our common stock on the trading day next succeeding the last date on which tenders or exchanges may be made pursuant to such tender or exchange offer, then the conversion rate will be adjusted; and
- if we make a distribution consisting exclusively of cash to all holders of outstanding shares of common stock, the conversion rate will be adjusted to a new conversion rate equal to the existing conversion rate multiplied by a fraction, the numerator of which is the current market price of our common stock plus the amount per share of such dividend or distribution and the denominator of which will be the current market price of our common stock, where the current market price of our common stock is the average closing sale price of our common stock for the first 10 trading days from, and including, the first ex-distribution day that the common stock trades.

To the extent that we have a shareholder rights plan in effect upon conversion of the notes into common stock, you will receive, in addition to the common stock, the rights under the rights plan unless the rights have separated from the common stock before the time of conversion, in which case the conversion rate will be adjusted as if we distributed to

28

all holders of our common stock, shares of our capital stock, evidences of indebtedness or assets as described above, subject to readjustment in the event of the expiration, termination or redemption of such rights.

We reserve the right to effect such increases in the conversion rate in addition to those required by the foregoing provisions as we consider to be

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

advisable in order that any event treated for U.S. federal income tax purposes as a distribution of stock or stock rights will not be taxable to the recipients. We will not be required to make any adjustment to the conversion rate until the cumulative adjustments amount to 1.0% or more of the conversion rate. We will compute all adjustments to the conversion rate and will give notice by mail to holders of the registered notes of any adjustments.

In the event that we consolidate or merge with or into another entity or another entity is merged into us, or in case of any sale or transfer of all or substantially all of our assets, each note then outstanding will become convertible only into the kind and amount of securities, cash and other property receivable upon such consolidation, merger, sale or transfer by a holder of the number of shares of common stock into which the notes were convertible immediately prior to the consolidation or merger or sale or transfer. The preceding sentence will not apply to a merger or sale of all or substantially all of our assets that does not result in any reclassification, conversion, exchange or cancellation of our common stock.

We may increase the conversion rate if our board of directors determines that the increase would be in our best interest. The board of directors' determination in this regard will be conclusive. We will give holders of notes notice of such an increase in the conversion rate. We will comply with the Exchange Act and the rules and regulations promulgated under the Exchange Act, to the extent applicable, in connection with any such notice.

If at any time we make a distribution of property to our stockholders that would be taxable to such stockholders as a dividend for U.S. federal income tax purposes, such as distributions of evidences of indebtedness or assets by us, but generally not stock dividends on common stock or rights to subscribe for common stock, and, pursuant to the conversion price adjustment provisions of the indenture, the number of shares into which notes are convertible is increased, that increase may be deemed for U.S. federal income tax purposes to be the payment of a taxable dividend to holders of notes. See "Certain U.S. Federal Income Tax Considerations."

OPTIONAL REDEMPTION BY EPIX

On or after June 15, 2009, we may redeem the notes, in whole or in part, at the following percentages of the principal amount of the notes, plus accrued and unpaid interest and additional interest, if any, to, but excluding, the redemption date:

DATE	REDEMPTION PRICE
-----	-----
June 15, 2009 to June 14, 2010.....	100.857%
June 15, 2010 to June 14, 2011.....	100.429%
June 15, 2011 and thereafter.....	100.000%

If we elect to redeem all or part of the notes, we will give at least 20, but no more than 60, days' prior notice to you. If we do not redeem all of the notes, the trustee will select the notes to be redeemed in principal amounts of \$1,000 or whole multiples of \$1,000 by lot, on a pro rata basis or otherwise in accordance with the applicable procedures of the depository. If any notes are to be redeemed in part only, we will issue a new note or notes in principal amount equal to the unredeemed principal portion thereof.

No sinking fund is provided for the notes, which means that the indenture does not require us to redeem or retire the notes periodically.

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

We may not redeem the notes if we have failed to pay any interest on the notes and such failure to pay is continuing, or if the principal amount of the notes has been accelerated.

If we redeem the notes in whole or in part, other than a redemption of less than \$7.5 million in cumulative principal amount of the notes, then we will be required to repay the then outstanding principal amount, together with accrued and unpaid interest, under our Schering AG loan facility.

29

REPURCHASE AT THE OPTION OF THE HOLDER ON SPECIFIED DATES

On the repurchase date of each of June 15, 2011, 2014 and 2019, we will, at the option of the holder, be required to repurchase for cash any outstanding note for which a written repurchase notice has been properly delivered by the holder and not withdrawn, subject to certain additional conditions. Holders may submit their notes for repurchase to the paying agent at any time from the opening of business on the date that is 20 business days prior to such repurchase date until the close of business on such repurchase date. The repurchase price of a note will be 100% of the principal amount of the note, plus accrued and unpaid interest and additional interest, if any, to, but excluding, the repurchase date. Interest and additional interest, if any, will be paid to the record holder as of the related record date.

We will be required to give notice on a date not less than 20 business days prior to the repurchase date to all holders at their addresses shown in the register of the registrar, and to beneficial owners as required by applicable law, stating, among other things, the procedures that holders must follow to require us to repurchase their notes.

The repurchase notice given by each holder electing to require us to repurchase notes shall state:

- if certificated notes have been issued, the certificate numbers of the holder's notes to be delivered for repurchase or, if not, such information as may be required under applicable DTC procedures and the indenture;
- the portion of the principal amount of notes to be repurchased, which must be \$1,000 or an integral multiple of \$1,000 (or the entire principal amount of the notes held by such holder); and
- that the notes are to be repurchased by us pursuant to the applicable provisions of the notes and the indenture.

Any repurchase notice may be withdrawn by the holder by a written notice of withdrawal delivered to the paying agent prior to the close of business on the repurchase date. The notice of withdrawal shall state:

- the principal amount being withdrawn;
- if certificated notes have been issued, the certificate numbers of the notes being withdrawn or, if not, such information as may be required under applicable DTC procedures and the indenture; and
- the principal amount, if any, of the notes that remains subject to the repurchase notice.

Payment of the repurchase price for a note for which a repurchase

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

notice has been delivered and not validly withdrawn is conditioned upon delivery (including by book entry transfer) of the note, together with necessary endorsements, to the paying agent at any time after delivery of the repurchase notice. Payment of the repurchase price for the note will be made promptly following the later of the repurchase date or the time of delivery of the note.

If the paying agent holds money or securities sufficient to pay the repurchase price of the note on the repurchase date then, on and after the business day following the repurchase date:

- the note will cease to be outstanding;
- interest will cease to accrue in respect of any date from and after the repurchase date; and
- all other rights of the holder will terminate, other than the right to receive the repurchase price upon delivery of the note.

Before we repurchase the notes in whole or in part, we will be required to repay the then outstanding principal amount, together with accrued and unpaid interest, under our Schering AG loan facility.

Our ability to repurchase notes with cash may be limited by the terms of our then existing borrowing and other financing agreements. Also, as described in the "Risk Factors" section of this prospectus, we may not have sufficient

30

funds to repurchase the notes when we are required to do so. We will comply with the Exchange Act and the rules and regulations promulgated under the Exchange Act, to the extent applicable, in connection with any such repurchase.

REPURCHASE AT THE OPTION OF THE HOLDER UPON A DESIGNATED EVENT

If a designated event occurs at any time prior to the maturity of the notes, you may require us to repurchase your notes, in whole or in part, on a repurchase date that is not less than 30 nor more than 45 business days after the date of our notice of the designated event. The notes will be repurchased only in integral multiples of \$1,000 principal amount (or the entire principal amount of the notes held by any holder).

We will repurchase the notes at a price equal to 100% of the principal amount to be repurchased, plus accrued and unpaid interest and additional interest, if any, to, but excluding, the repurchase date. If such repurchase date falls after a record date and on or prior to the corresponding interest payment date, we will pay the full amount of accrued and unpaid interest payable on such interest payment date to the holder of record on the close of business on the corresponding record date.

We will mail to all record holders a notice of a designated event within 20 days after it has occurred. We also are required to deliver to the trustee a copy of the designated event notice. If you elect to require us to repurchase your notes, you must deliver to us or our designated agent, prior to the close of business on the repurchase date specified in our designated event notice, your repurchase notice and any notes to be repurchased, duly endorsed for transfer (or, if your notes are not certificated, your repurchase notice must comply with appropriate DTC procedures). We will promptly pay the repurchase price for notes surrendered for repurchase following the repurchase date.

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

You may withdraw any written repurchase notice by delivering a written notice of withdrawal to the paying agent prior to the close of business on the repurchase date. The withdrawal notice must state:

- the principal amount of the withdrawn notes;
- if certificated notes have been issued, the certificate number of the withdrawn notes (or, if your notes are not certificated, your withdrawal notice must comply with appropriate DTC procedures); and
- the principal amount, if any, which remains subject to the repurchase notice.

In the event of a "termination of trading," we will pay the repurchase price in cash.

In the event of a "change in control," we may, at our option, elect to pay the repurchase price in cash, shares of common stock valued at a discount of 5% from the market price of our common stock, or any combination thereof. If the amount of stock to be issued in connection with any repurchase equals or exceeds 20% of the voting power of our outstanding stock prior to the issuance in connection with the repurchase, we may, under Nasdaq rules, be required to obtain the approval of our stockholders for such an issuance. We may pay the repurchase price in shares of our common stock only if such shares are eligible for immediate resale in the public market by our non-affiliates. We will notify the holders of the notes upon the determination of the actual number of shares of common stock deliverable upon any repurchase of the notes.

Our right to repurchase the notes, in whole or in part, in the event of a change in control with shares of common stock is subject to our satisfying various conditions, including:

- the listing of such shares of common stock on the principal United States securities exchange on which the common stock is then listed or, if not so listed, on Nasdaq or any similar U.S. system of automated dissemination of quotations of securities prices;
- the registration of the common stock under the Exchange Act, if required; and
- any necessary qualification or registration under applicable state securities law or the availability of an exemption from such qualification and registration.

31

If such conditions are not satisfied with respect to a holder prior to the close of business on the repurchase date, we will pay the repurchase price of such holder's notes entirely in cash. We may not change the form or components or percentages of components of consideration to be paid for the notes once we have given any notice that we are required to give to holders of the notes, except as described in the first sentence of this paragraph.

The "market price" of our common stock means the average of the daily volume-weighted average price of our common stock for the 20 trading-day period ending on the third business day prior to the repurchase date (if the third business day prior to the repurchase date is a trading day, or if not, then on the last trading day prior to the third business day), appropriately adjusted to take into account the occurrence, during the period commencing on the first trading day during the 20 trading-day period and ending on the repurchase date,

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

of any event that would result in an adjustment to the conversion rate of the notes, as described above under "--Conversion of Notes."

Because the market price of our common stock is determined prior to the repurchase date, holders of the notes bear the market risk with respect to the value of our common stock to be received from the date the market price is determined to the repurchase date. We may pay the repurchase price or any portion of the repurchase price in shares of our common stock only if the information necessary to calculate the market price is publicly available. In connection with any redemption offer, we will comply with the provisions of Rule 13e-4, Rule 14e-1 and any other tender offer rules under the Exchange Act that may then be applicable, including filing a Schedule TO or any other required schedule under the Exchange Act.

Payment of the repurchase price for a note for which a repurchase notice has been delivered and not withdrawn is conditioned upon book-entry transfer or delivery of the note, together with necessary endorsements, to the paying agent at its corporate trust office in the Borough of Manhattan, The City of New York, or any other office of the paying agent, at any time after delivery of the repurchase notice. Payment of the repurchase price for the note will be made promptly following the later of the repurchase date and the time of book-entry transfer or delivery of the note.

If the paying agent holds money or securities sufficient to pay the repurchase price of the note on the repurchase date, then, on and after the business day following the repurchase date:

- the note will cease to be outstanding;
- interest will cease to accrue in respect of any date from and after the repurchase date; and
- all other rights of the holder will terminate, other than the right to receive the repurchase price upon delivery of the note.

This will be the case whether or not book-entry transfer of the note has been made or the note has been delivered to the paying agent.

A "designated event" will be deemed to have occurred upon a change in control or a termination of trading.

A "change in control" will be deemed to have occurred at the time after the notes are originally issued that any of the following occurs:

- (1) any person acquires a beneficial ownership, directly or indirectly, through a purchase, merger or other acquisition transaction or series of transactions, of shares of our capital stock entitling the person to exercise 50% or more of the total voting power of all shares of our capital stock that are entitled to vote generally in elections of directors, other than an acquisition by us, any subsidiaries that we may create in the future or any of our employee benefit plans; or
- (2) we merge or consolidate with or into any other person, any other person merges with or into us or we convey, sell, transfer or lease all or substantially all of our assets to another person, other than:
 - any such transaction pursuant to which the holders of 50% or more of the total voting power of all shares of our capital stock entitled to vote generally in elections of directors immediately prior to such transaction have the entitlement to

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

exercise, directly or indirectly, 50% or more of the total voting

32

power of all shares of capital stock entitled to vote generally in the election of directors of the continuing or surviving corporation immediately after such transaction; or

- any merger that is effected solely to change our jurisdiction of incorporation; or
- (3) any transaction or event (whether by means of an exchange offer, liquidation, tender offer, consolidation, merger, binding share exchange, combination, reclassification, recapitalization or otherwise) in connection with which all or substantially all of our common stock is exchanged for, converted into, acquired for or constitutes solely the right to receive, consideration which is not all or substantially all common stock that:
 - is listed on, or immediately after the transaction or event will be listed on, a U.S. national securities exchange; or
 - is approved, or immediately after the transaction or event will be approved, for quotation on Nasdaq or any similar U.S. system of automated dissemination of quotations of securities prices.

HOWEVER, A CHANGE IN CONTROL WILL NOT BE DEEMED TO HAVE OCCURRED IF
EITHER:

- the closing price per share of our common stock for any five trading days within the period of 10 consecutive trading days ending immediately after the later of the change in control and the public announcement of the change in control, in the case of a change in control relating to an acquisition of capital stock, or the period of 10 consecutive trading days ending immediately before the change in control, in the case of a change in control relating to a merger, consolidation or asset sale, equals or exceeds 105% of the conversion price of the notes in effect on each of those trading days; or
- all of the consideration, excluding cash payments for fractional shares and cash payments made pursuant to dissenters' appraisal rights, in a merger or consolidation otherwise constituting a change in control under clause (1) or (2) in the preceding paragraph above, consists of shares of common stock, depositary receipts or other certificates representing common equity interests traded on a national securities exchange or quoted on Nasdaq, or will be so traded or quoted immediately following such merger or consolidation, and as a result of such merger or consolidation the notes become convertible solely into such common stock, depositary receipts or other certificates representing common equity interests.

For purposes of this definition:

- whether a person is a beneficial owner will be determined in accordance with Rule 13d-3 under the Exchange Act;

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

- a person includes any syndicate or group that would be deemed to be a person under Section 13(d) (3) of the Exchange Act; and
- we may rely on 13D and 13G filings filed pursuant to the Exchange Act.

A "termination of trading" will be deemed to have occurred if our common stock or other common stock into which the notes are convertible is neither listed for trading on a U.S. national securities exchange nor approved for listing on Nasdaq or any similar U.S. system of automated dissemination of quotations of securities prices, and no American Depositary Shares or similar instruments for such common stock are so listed or approved for listing in the U.S.

We will comply with any applicable provisions of Rule 13e-4 and any other applicable tender offer rules under the Exchange Act in the event of a designated event.

These designated event repurchase rights could discourage a potential acquirer of EPIX. However, this designated event repurchase feature is not the result of management's knowledge of any specific effort to obtain control of us by means of a merger, tender offer or solicitation, or part of a plan by management to adopt a series of anti-takeover

33

provisions. The term "designated event" is limited to specified transactions and may not include other events that might adversely affect our financial condition or business operations. Our obligation to offer to repurchase the notes upon a designated event would not necessarily afford you protection in the event of a highly leveraged transaction, reorganization, merger or similar transaction involving us. No notes may be repurchased by us at the option of holders upon a designated event if the principal amount of the notes has been accelerated and such acceleration has not been rescinded.

We may be unable to repurchase the notes in the event of a designated event. If a designated event were to occur, we may not have enough funds to pay the repurchase price for all tendered notes. Any future credit or financing agreements or other agreements relating to our indebtedness may contain provisions prohibiting repurchase of the notes under certain circumstances, or expressly prohibit our repurchase of the notes upon a designated event or may provide that a designated event constitutes an event of default under that agreement. The subordination provisions of the indenture may also preclude us from repurchasing the notes. If a designated event occurs at a time when we are prohibited from repurchasing notes, we could seek the consent of our lenders to repurchase the notes or attempt to refinance this debt. If we do not obtain consent, we would not be permitted to repurchase the notes. Our failure to repurchase tendered notes would constitute an event of default under the indenture, which might constitute a default under the terms of our other indebtedness.

The definition of change in control includes a phrase relating to the conveyance, transfer, sale, lease or disposition of all or substantially all of our assets. There is no precise, established definition of the phrase "substantially all" under applicable law. Accordingly, your ability to require us to repurchase your notes as a result of conveyance, transfer, sale, lease or other disposition of less than all of our assets may be uncertain.

Before we repurchase the notes in whole or in part, we will be required to repay the then outstanding principal amount, together with accrued unpaid

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

interest, under our Schering AG loan facility.

RANKING

The notes will:

- be our senior unsecured obligations;
- be subordinated in right of payment with all of our existing and future indebtedness under our Schering AG loan facility;
- rank on parity in right of payment with all of our existing and future senior debt, other than our Schering AG loan facility; and
- rank senior in right of payment to all of our future debt that is subordinated to the notes.

The notes are effectively subordinated in right of payment to our existing and future secured debt, to the extent of such security, and to all existing and future indebtedness (including trade payables) of any subsidiaries that we may create in the future. As a result of the subordination of the notes to the Schering AG loan facility, in the event of our bankruptcy, dissolution or reorganization, holders of the notes may receive less, ratably, than our other creditors, including without limitation our trade creditors and other creditors that are not contractually subordinated to the Schering AG loan facility. The indenture does not limit our ability to incur debt, including secured debt, or the amount of indebtedness or other liabilities our subsidiaries may incur. Our ability to make required interest, principal, repurchase or redemption payments on the notes may be impaired as a result of the obligations of any of our future subsidiaries. Our subsidiaries, if any, will be separate and distinct legal entities and have no obligation, contingent or otherwise, to pay any amounts due pursuant to the notes or to make any funds available therefor, whether by dividends, loans or other payments. Any right we have to receive assets of any of our future subsidiaries upon that subsidiary's liquidation or reorganization (and the consequent right of the holders of the notes to participate in those assets) will be effectively subordinated to the claims of that subsidiary's creditors, except to the extent that we are ourselves recognized as a creditor of that subsidiary, in which case our claims would still be subordinate to any security interests in the assets of that subsidiary and any indebtedness of that subsidiary senior to that held by us. At September 30, 2004, the outstanding principal amount of our indebtedness under our Schering AG loan facility was \$15 million, which amount was repaid in full in October 2004, and we did not have any other

34

secured debt outstanding. No payment will be able to be made in respect of the notes if the indebtedness under the Schering AG loan facility is not paid when due or any other default under the Schering AG loan facility occurs and the maturity of such indebtedness is accelerated in accordance with its terms. Furthermore, if certain other defaults exist with respect to the Schering AG loan facility, the holders of such indebtedness will be able to prevent payments on the notes for specified periods of time. In addition, before we redeem or repurchase for cash the notes in whole or in part, we will be required to repay the then outstanding principal amount, together with accrued and unpaid interest, under our Schering AG loan facility, other than a redemption by us of less than \$7.5 million cumulative principal amount of the notes.

We are obligated to pay reasonable compensation to the trustee and to indemnify the trustee against certain losses, liabilities or expenses incurred

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

by it in connection with its duties relating to the notes. The trustee's claims for such payments will be senior to those of holders of the notes in respect of all funds collected or held by the trustee.

MERGER AND SALE OF ASSETS BY EPIX

The indenture provides that we may not consolidate with or merge with or into any other person or convey, transfer or lease all or substantially all of our properties or assets to another person, unless among other things:

- we are the surviving person, or the resulting, surviving or transferee person, if other than us, is organized and existing under the laws of the United States, any state thereof or the District of Columbia;
- the successor person, if other than us, assumes, by supplemental indenture satisfactory in form to the trustee, all of our obligations under the notes and the indenture;
- after giving effect to such transaction, there is no event of default under the indenture, and no event which, after notice or passage of time or both, would become an event of default; and
- we have delivered to the trustee an officers' certificate stating that such transaction complies with these requirements and an opinion of counsel as to the first two items above.

When such a person assumes our obligations in such circumstances, subject to certain exceptions, we shall be discharged from all obligations under the notes and the indenture.

EVENTS OF DEFAULT; NOTICE AND WAIVER

The following will be events of default with respect to the notes under the indenture:

- we fail to pay principal when due at maturity, upon redemption, repurchase or otherwise on the notes;
- we fail to pay any interest or additional interest, if any, on the notes, when due and such failure continues for a period of 30 consecutive days;
- we fail to perform or observe any of the covenants in the indenture for 60 consecutive days after written notice to us from the trustee (or to us and the trustee from the holders of at least 25% in principal amount of the outstanding notes);
- payment defaults, continuing after any applicable grace periods, or acceleration of indebtedness (if such acceleration is not withdrawn, cancelled or otherwise annulled within 10 days), where the aggregate amount of defaulted or accelerated principal, premium and interest is in excess of \$10 million; or
- certain events involving our bankruptcy, insolvency or reorganization.

The trustee may withhold notice to the holders of the notes of any default, except defaults in payment of principal, interest or additional interest, if any, on the notes. However, the trustee must consider it to be in the interest of the holders of the notes to withhold this notice.

If an event of default occurs and continues, the trustee or the holders of at least 25% in principal amount of the notes then outstanding may declare the principal and accrued interest and additional interest, if any, on the outstanding notes to be immediately due and payable. In case of certain events of bankruptcy or insolvency involving us, the principal and accrued interest and additional interest, if any, on the notes will automatically become due and payable. However, with certain exceptions, if we cure all defaults, except the nonpayment of principal, interest or additional interest, if any, that became due as a result of the acceleration, and meet certain other conditions and the holders of a majority of the principal amount of outstanding notes waive these past defaults on behalf of all holders of the notes, this declaration may be cancelled.

Payments of principal, interest or additional interest, if any, on the notes that are not made when due will accrue interest from the required payment date at the annual rate of 1% above the then applicable interest rate for the notes.

The holders of a majority of outstanding notes will have the right to direct the time, method and place of any proceedings for any remedy available to the trustee, subject to limitations specified in the indenture.

No holder of the notes may pursue any remedy under the indenture, except in the case of a default in the payment of principal, interest or additional interest, if any, unless:

- the holder has given the trustee written notice of an event of default;
- the holders of at least 25% in principal amount of the notes then outstanding make a written request to the trustee to pursue the remedy;
- the holder or holders have offered reasonable security or indemnity to the trustee against any costs, liability or expense of the trustee;
- the trustee does not receive an inconsistent direction from the holders of a majority in principal amount of the notes; and
- the trustee fails to comply with the request within 60 days after receipt of the request and offer of indemnity.

MODIFICATION AND WAIVER

The consent of the holders of a majority in principal amount of the outstanding notes is required to modify or amend the indenture. However, a modification or amendment requires the consent of the holder of each outstanding note if it would:

- extend the fixed maturity of any note;
- reduce the rate or extend the time for payment of interest or additional interest, if any, of any note;
- reduce the principal amount of any note;
- reduce any amount payable upon redemption or repurchase of any note;

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

- after the occurrence of a designated event, adversely change our obligation to repurchase any note upon a designated event;
- impair the right of a holder to institute suit for payment on any note;
- change the currency in which any note is payable;
- impair the right of a holder to convert any note or reduce the number of shares of common stock or the amount of any other property receivable upon conversion;
- reduce the quorum or voting requirements under the indenture; or

36

- subject to specified exceptions, modify certain provisions of the indenture relating to modification or waiver of provisions of the indenture.

In addition, a modification or amendment that would, prior to the occurrence of a designated event, adversely change our obligation to repurchase any note upon a designated event requires the consent of the holders of two-thirds in principal amount of the outstanding notes.

We are permitted to modify certain provisions of the indenture without the consent of the holders of the notes.

FORM, DENOMINATION AND REGISTRATION

The notes have been issued:

- in fully registered form;
- without interest coupons; and
- in denominations of \$1,000 principal amount and integral multiples of \$1,000.

GLOBAL NOTE, BOOK-ENTRY FORM

Notes are evidenced by one or more global notes. We have deposited the global note or notes with DTC and have registered the global notes in the name of Cede & Co. as DTC's nominee. Except as set forth below, a global note may be transferred, in whole or in part, only to another nominee of DTC or to a successor of DTC or its nominee.

Beneficial interests in a global note may be held directly through DTC if such holder is a participant in DTC, or indirectly through organizations that are participants in DTC (called "participants"). Transfers between participants will be effected in the ordinary way in accordance with DTC rules and will be settled in clearing house funds. The laws of some states require that certain persons take physical delivery of securities in definitive form. As a result, the ability to transfer beneficial interests in the global note to such persons may be limited.

Holders who are not participants may beneficially own interests in a global note held by DTC only through participants, or certain banks, brokers, dealers, trust companies and other parties that clear through or maintain a custodial relationship with a participant, either directly or indirectly (called

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

"indirect participants"). So long as Cede & Co., as the nominee of DTC, is the registered owner of a global note, Cede & Co. for all purposes will be considered the sole holder of such global note. Except as provided below, owners of beneficial interests in a global note will:

- not be entitled to have certificates registered in their names; and
- not be considered holders of the global note (other than in an enforcement by such owner of a beneficial interest to exchange such beneficial interest for notes in certificated form).

We will pay interest, and additional interest, if any, and the redemption price and the repurchase price of a global note to Cede & Co., as the registered owner of the global note, by wire transfer of immediately available funds on each interest payment date or the redemption or repurchase date, as the case may be. Neither we, the trustee nor any paying agent will be responsible or liable:

- for the records relating to, or payments made on account of, beneficial ownership interests in a global note; or
- for maintaining, supervising or reviewing any records relating to the beneficial ownership interests.

Neither we, the trustee, registrar, paying agent nor conversion agent will have any responsibility for the performance by DTC or its participants or indirect participants of their respective obligations under the rules and procedures governing their operations. DTC has advised us that it will take any action permitted to be taken by a holder of notes, including the presentation of notes for exchange, only at the direction of one or more participants to whose account with DTC interests in the global note are credited, and only in respect of the principal amount of the notes

37

represented by the global note as to which the participant or participants has or have given such direction. DTC has advised us that it is:

- a limited purpose trust company organized under the laws of the State of New York, and a member of the Federal Reserve System;
- a "clearing corporation" within the meaning of the Uniform Commercial Code; and
- a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC was created to hold securities for its participants and to facilitate the clearance and settlement of securities transactions between participants through electronic book-entry changes to the accounts of its participants. Participants include securities brokers, dealers, banks, trust companies and clearing corporations and other organizations. Some of the participants or their representatives, together with other entities, own DTC. Indirect access to the DTC system is available to others such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a participant, either directly or indirectly.

DTC has agreed to the foregoing procedures to facilitate transfers of interests in a global note among participants. However, DTC is under no obligation to perform or continue to perform these procedures, and may

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

discontinue these procedures at any time.

We will issue the notes in definitive certificated form if DTC notifies us that it is unwilling or unable to continue as depository or DTC ceases to be a clearing agency registered under the Exchange Act and a successor depository is not appointed by us within 90 days. In addition, beneficial interests in a global note may be exchanged for definitive certificated notes upon request by or on behalf of DTC in accordance with customary procedures. We may determine at any time and in our sole discretion that notes shall no longer be represented by global notes, in which case we will issue certificates in definitive form in exchange for the global notes.

REGISTRATION RIGHTS OF THE NOTEHOLDERS

We have entered into a registration rights agreement with the initial purchasers. We have filed a shelf registration statement with the SEC, of which this prospectus is a part, covering resale of the registrable securities. We will use our reasonable best efforts to keep the shelf registration statement effective until the date there are no longer any registrable securities.

When we use the term "registrable securities" in this section, we are referring to the notes and the common stock issuable upon conversion of the notes until the earliest of:

- the effective registration under the Securities Act and the resale of the registrable securities in accordance with the registration statement;
- the expiration of the holding period for non-affiliates with respect to the registrable securities under Rule 144(k) under the Securities Act;
- the sale of the registrable securities pursuant to Rule 144 under the Securities Act;
- the registrable securities cease to be outstanding; and
- June 7, 2006.

We may suspend the use of the prospectus included in the registration statement under certain circumstances relating to pending corporate developments, public filings with the SEC and similar events. Any suspension period shall not exceed:

- 30 days in any three-month period; or

38

- an aggregate of 90 days for all suspension periods in any 12-month period.

Notwithstanding the foregoing, we will be permitted to suspend the use of the prospectus included in the shelf registration statement for up to 60 days in any three-month period under certain circumstances, relating to possible acquisitions, financings or other similar transactions.

We will pay additional interest on the interest payment dates for the notes to the initial purchasers in the event the prospectus included in the registration statement is unavailable for periods in excess of those permitted above. Those additional amounts will accrue until such unavailability is cured:

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

- in respect of any notes at a rate per year equal to 0.25% of the outstanding principal amount thereof for the first 90 days after the occurrence of the event and 0.50% of the outstanding principal amount thereof after the first 90 days; and
- in respect of shares of common stock into which the notes have been converted at a rate per year equal to 0.25% of the then-applicable conversion price for the first 90 days after the occurrence of the event and 0.50% of the then-applicable conversion price after the first 90 days.

We will have no other liabilities for monetary damages with respect to our registration obligations.

A holder who elects to sell registrable securities pursuant to the shelf registration statement will be required to:

- be named as a selling holder in the related prospectus;
- deliver a prospectus to purchasers; and
- be subject to the provisions of the registration rights agreement, including indemnification provisions.

Under the registration rights agreement we will:

- pay all expenses of the shelf registration statement;
- provide each registered holder copies of the prospectus;
- notify holders when the shelf registration statement has become effective; and
- take other reasonable actions as are required to permit unrestricted resales of the registrable securities in accordance with the terms and conditions of the registration rights agreement.

The plan of distribution of the shelf registration statement will permit resales of registrable securities by selling holders through brokers and dealers. See "Plan of Distribution."

INFORMATION CONCERNING THE TRUSTEE

We have appointed U.S. Bank National Association, the trustee under the indenture, as paying agent, conversion agent, note registrar and custodian for the notes. The trustee or its affiliates may provide banking and other services to us in the ordinary course of their business. Subject to certain conditions, we have the right to replace the trustee.

The indenture contains certain limitations on the rights of the trustee, if it or any of its affiliates is then our creditor, to obtain payment of claims in certain cases or to realize on certain property received on any claim as security or otherwise. The trustee and its affiliates will be permitted to engage in other transactions with us. However, if the trustee or any affiliate continues to have any conflicting interest and a default occurs with respect to the notes, the trustee must eliminate such conflict or resign.

GOVERNING LAW

The notes and the indenture are governed by, and shall be construed in accordance with, the laws of the State of New York.

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 40,000,000 shares of common stock and 1,000,000 shares of preferred stock, par value \$.01 per share. As of September 30, 2004, we had 23,089,499 shares of common stock outstanding and no shares of preferred stock outstanding.

COMMON STOCK

The holders of our common stock are entitled to one vote for each share held of record on all matters voted upon by our stockholders and may not cumulate votes. Subject to the rights of holders of any future series of undesignated preferred stock which may be designated, each share of the outstanding common stock is entitled to participate ratably in any distribution of net assets made to the stockholders in the liquidation, dissolution or winding up of our company and is entitled to participate equally in dividends if and when declared by our board of directors. There are no redemption, sinking fund, conversion or preemptive rights with respect to shares of our common stock. All shares of our common stock have equal rights and preferences.

PREFERRED STOCK

Our board of directors has the authority, without further stockholder approval, to issue 1,000,000 shares of preferred stock where defined in one or more series and to fix the relative rights, preferences, privileges, qualifications, limitations and restrictions of such preferred stock, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series. The issuance of preferred stock, while potentially providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of delaying, deferring or preventing a change in control of our company, which may discourage bids for our common stock at a premium over the market price of the common stock and may adversely affect the market price of, and the voting and other rights of the holders of, our common stock. We have no present plans to issue any shares of preferred stock.

CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following discussion is a summary of certain U.S. federal income tax considerations of the purchase, ownership and disposition of the notes and of our common stock into which the notes may be converted. This discussion assumes that the notes will be treated as indebtedness for U.S. federal income tax purposes.

This discussion applies to holders that will hold the notes and common stock as "capital assets" within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended, which we sometimes refer to as the Code, and does not address tax considerations applicable to investors in light of their particular circumstances or to investors that may be subject to special tax rules, such as financial institutions, mutual funds, tax-exempt organizations, insurance companies, dealers in securities or currencies, traders in securities who elect to apply mark-to-market method of accounting, persons that will hold notes as a position in a hedging transaction, "straddle" or "conversion

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

transaction" for tax purposes, persons subject to the alternative minimum tax, certain former citizens or residents of the United States, United States Holders (as defined below) whose functional currency is not the U.S. dollar or persons deemed to sell notes under the constructive sale provisions of the Code.

This summary is based on the Code, administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations, changes to any of which subsequent to the date of this prospectus may affect the tax consequences described herein, possibly with retroactive effect. We have not sought a ruling from the Internal Revenue Service with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the Internal Revenue Service will agree with such statements and conclusions.

Persons considering the purchase of the notes are urged to consult their tax advisers with regard to the application of the U.S. federal income tax laws to their particular situations as well as any tax consequences arising under the U.S. federal estate or gift tax laws or the laws of any state, local or foreign taxing jurisdiction.

TAX CONSEQUENCES TO UNITED STATES HOLDERS

As used herein, the term "United States Holder" means a beneficial owner of a note or shares of our common stock that is, as determined for U.S. federal income tax purposes, either (1) a citizen or resident of the United States, or U.S.; (2) a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, formed under the laws of the U.S. or a state of the U.S.; (3) an estate the income of which is subject to U.S. federal income tax regardless of its source; or (4) a trust subject to the primary supervision of a court within the U.S. which has one or more U.S. persons with authority to control all substantive decisions, or which has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person. A "Non-United States Holder" is any holder other than a United States Holder.

If a partnership (including for this purpose any entity, foreign or domestic, classified as a partnership for U.S. federal income tax purposes) is a beneficial owner of the notes or the common stock into which the notes may be converted, the U.S. federal income tax treatment of a partner in the partnership generally will depend on the status of the partner and the activities of the partnership. As a general matter, income earned by a foreign or domestic partnership is attributed to its owners for U.S. federal income tax purposes. A holder of the notes or the common stock that is a partnership, and the partners in such partnership, should consult their individual tax advisors regarding the federal, state, local and foreign tax consequences of the purchase, ownership and disposition of the notes (and the common stock).

TAXATION OF INTEREST

Interest paid on the notes will be included in the income of a holder as ordinary income at the time it is treated as received or accrued, in accordance with the holder's regular method of tax accounting.

In general, if the terms of a debt instrument entitle a holder to receive payments other than fixed periodic interest that exceed the issue price of the instrument, the holder may be required to recognize additional interest as "original issue discount" over the term of the instrument. Further, if the amount or timing of any additional payments on a note is contingent, the note could be subject to special rules that apply to contingent debt instruments. These rules generally require a holder to accrue interest income at a rate higher than the stated interest rate on the note and to treat as ordinary

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

income, rather than capital gain, any gain recognized on a sale, exchange or retirement of a note before the resolution of the contingencies.

If the notes are not registered with the SEC within prescribed time periods or in certain other circumstances described above under "Description of the Notes - Registration Rights of the Noteholders", the initial purchasers of the notes will be entitled to additional interest. Also, under certain circumstances, we may allow noteholders to participate in extraordinary distributions to our stockholders that would otherwise cause the notes to become convertible, as described above under "Description of the Notes-- Conversion of Notes." Any such extraordinary distributions received by noteholders would likely be treated as additional interest on the notes. In addition, in certain circumstances, we may pay the repurchase price of the notes in shares of our common stock or a combination of cash and shares of our common stock, as described above under "Description of the Notes--Repurchase at the Option of the Holder upon a Designated Event," in which case holders of the notes will be entitled to receive a premium.

Notwithstanding the possibility of such contingent payments, under applicable Treasury Regulations, payments on a note that are subject to either a remote or incidental contingency may be ignored. We believe that the prospect of the foregoing payments being made should be considered as a remote and/or incidental contingency so that the payments should be ignored.

Therefore, for purposes of filing tax or information returns with the Internal Revenue Service, we will not treat the notes as contingent payment debt instruments. Our determination that the notes are not contingent payment debt instruments is binding on each holder unless the holder explicitly discloses in the manner required by applicable Treasury Regulations that its determination is different from ours. Our determination is not, however, binding on the Internal Revenue Service. This discussion assumes that the notes are not subject to the contingent payment debt instrument rules.

MARKET DISCOUNT

A United States Holder who buys a note for less than its stated redemption price at maturity may be considered to have purchased the note at a "market discount." If the market discount is less than 0.25% of the stated redemption price of the note at maturity multiplied by the number of complete years to maturity, then the market discount will be deemed to be zero.

A United States Holder may elect to include market discount in income currently as it accrues. Any such election will apply to all market discount bonds acquired during or after the year for which the election is made, and the election may be terminated only with the consent of the Internal Revenue Service.

If a United States Holder does not make an election to include market discount in income currently as it accrues, any principal amount received or gain recognized by a United States Holder on the sale, exchange, retirement or other taxable disposition of a note will be treated as ordinary income to the extent of any accrued market discount on the note not previously included in income. Unless a United States Holder irrevocably elects to accrue market discount under a constant-interest method, accrued market discount is the total market discount multiplied by a fraction, the numerator of which is the number of days the United States Holder has held the note and the denominator of which is the number of days from the date the holder acquired the note until its maturity. If a United States Holder exchanges or converts a note into common stock in a transaction that is otherwise tax free, any accrued market discount on the note not previously included in income will carry over to the common

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

stock, and generally any gain recognized upon the disposition of such common stock will be treated as ordinary income to the extent of such accrued market discount.

A United States Holder may be required to defer a portion of such holder's interest deductions for the taxable year attributable to any indebtedness incurred or continued to purchase or carry a note purchased with market discount. Any such deferred interest expense may not exceed the market discount that accrues during a taxable year and is, in general, allowed as a deduction not later than the year in which the market discount is includible in income. This interest expense deferral will not apply if a United States Holder makes an election to include market discount in income currently as it accrues.

42

MARKET PREMIUM

A United States Holder who buys a note for more than its stated redemption price at maturity generally will be considered to have purchased the note at a "market premium." Market premium, however, does not include any premium attributable to the conversion feature of the note. If an election is made, the market premium may generally be amortized using a constant yield method, over the remaining term of the note.

Interest otherwise required to be included in income with respect to the note during any tax year may be offset by the amount of any amortized market premium for the year. An election to amortize market premium will apply to all market premium bonds acquired during or after the year for which the election is made, and the election may be terminated only with the consent of the Internal Revenue Service.

SALE, EXCHANGE, REPURCHASE, REDEMPTION OR RETIREMENT OF NOTES

Upon a sale, exchange, repurchase, redemption or retirement of a note (other than a conversion into shares of our common stock or repurchase for shares of our common stock or a combination of shares of our common stock and cash), a United States Holder will generally recognize taxable gain or loss equal to the difference between (1) the amount realized on the sale, exchange, repurchase, redemption or retirement (except to the extent such amount is attributable to accrued interest not previously included in income, which will be taxable as interest income as discussed above under "Tax Consequences to United States Holders--Taxation of Interest") and (2) such United States Holder's adjusted tax basis in the note.

A United States Holder's adjusted tax basis in a note will be, in general, the cost of the note to the holder, increased by the amount of any accrued but unpaid interest previously included in the holder's taxable income and any accrued market discount previously included in the holder's income and decreased by any principal payments received and any amortizable market premium accrued.

Subject to the discussion above regarding market discount, gain or loss recognized on the sale, exchange, repurchase, redemption or retirement of a note generally will be capital gain or loss and will be long-term capital gain or loss if at the time of the sale, exchange, repurchase, redemption or retirement the note has been held for more than one year. The deductibility of capital losses is subject to limitations.

CONVERSION OF NOTES INTO COMMON STOCK

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

A United States Holder's conversion of a note into shares of our common stock generally will not be a taxable event, except (i) the receipt of shares attributable to accrued interest not previously included in income will be taxable as interest income as discussed above under "Tax Consequences to United States Holders--Taxation of Interest," and (ii) the receipt of cash in lieu of a fractional share of our common stock will result in capital gain or loss (measured by the difference between the cash received in lieu of the fractional share and the United States Holder's tax basis attributable to the fractional share), except that any gain will be treated as ordinary income to the extent of accrued market discount allocable to such share as discussed above.

A United States Holder's tax basis in the shares of our common stock received upon a conversion of a note (except for any shares received attributable to accrued interest not previously included in income) will be the same as the United States Holder's tax basis in the note at the time of the conversion, reduced by any basis attributable to a fractional share. The United States Holder's holding period for the shares of our common stock received (except for any shares received attributable to accrued interest not previously included in income) will include the holding period of the note converted.

A United States Holder's tax basis in any shares received attributable to accrued interest not previously included in income will equal the fair market value of the shares at the time of the conversion, and the United States Holder's holding period for such shares will begin on the day after the conversion.

REPURCHASE OF NOTES FOR COMMON STOCK OR COMBINATION OF CASH AND COMMON STOCK

In certain circumstances, we may pay the repurchase price of the notes in shares of our common stock or a combination of cash and shares of our common stock, as described above under "Description of the Notes--Repurchase at the Option of the Holder upon a Designated Event." If a United States Holder requires us to repurchase some or all of the

43

holder's notes and we elect to pay the repurchase price in shares of our common stock or a combination of cash and shares of our common stock, the repurchase should qualify as a recapitalization for U.S. federal income tax purposes if the notes qualify as "securities" for tax purposes. Although the determination of the notes as "securities" is not free from doubt, the notes should qualify as "securities." United States Holders should consult their own tax advisors regarding this determination.

If the repurchase price is paid solely in shares of our common stock (except for cash received in lieu of a fractional share), and the repurchase qualifies as a recapitalization, the repurchase will result in the same tax consequences as a conversion of the notes into shares of our common stock, as described above under "Tax Consequences to United States Holders-Conversion of Notes into Common Stock."

If the repurchase price is paid in a combination of cash (other than cash received in lieu of a fractional share) and shares of our common stock, and the repurchase qualifies as a recapitalization, a United States Holder should recognize gain, but not loss, equal to the lesser of (i) the sum of the fair market value of the shares of our common stock received and the amount of cash received less the holder's adjusted tax basis in the notes and (ii) the amount of cash received. If the repurchase does not have the effect of a distribution of a dividend, subject to the discussion above regarding market discount, such gain will be capital gain. For purposes of the foregoing, any cash or shares received attributable to accrued interest not previously included in income and

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

any cash received in lieu of a fractional share will not be taken into account. The receipt of cash or shares attributable to accrued interest not previously included in income will be taxable as interest income as discussed above under "Tax Consequences to United States Holders--Taxation of Interest," and the receipt of cash in lieu of a fractional share of our common stock will result in capital gain or loss (measured by the difference between the cash received in lieu of the fractional share and the United States Holder's tax basis attributable to the fractional share), except that any gain will be treated as ordinary income to the extent of accrued market discount allocable to such share as discussed above.

The United States Holder's tax basis in the shares of our common stock received (except for any shares received attributable to accrued interest not previously included in income) should be the same as the United States Holder's tax basis in the notes repurchased, less the amount of the basis attributable to a fractional share and the amount of cash received (except (i) to the extent any cash received is attributable to accrued interest not previously included in income and (ii) for cash received in lieu of a fractional share), and increased by the amount of gain recognized (other than gain with respect to a fractional share). The United States Holder's holding period for the shares of common stock received (except for any shares received attributable to accrued interest not previously included in income) will include the holding period of the notes repurchased. A United States Holder's tax basis in any shares received attributable to accrued interest not previously included in income would equal the fair market value of the shares at the time of the repurchase, and the United States Holder's holding period for such shares would begin on the day after the repurchase.

If the repurchase of notes for shares of our common stock or a combination of cash and shares of our common stock does not qualify as a recapitalization (or as an otherwise nontaxable transaction), a United States Holder would recognize gain or loss as discussed above under "Tax Consequences to United States Holders--Sale, Exchange, Repurchase, Redemption or Retirement of Notes."

CONSTRUCTIVE DISTRIBUTIONS

If at any time we increase the conversion rate of the notes, either at our discretion or pursuant to the anti-dilution provisions of the indenture, the increase may be deemed to be the payment of a taxable dividend to the United States Holders of the notes. Generally, an increase in the conversion rate in the event of a cash dividend to our stockholders will result in a deemed distribution to the United States Holders of the notes, but generally a reasonable increase in the conversion rate in the event of stock dividends or distributions of rights to our stockholders to subscribe for shares of our common stock will not result in a deemed distribution to the United States Holders of the notes. In certain circumstances, the failure to adjust the conversion rate may result in a deemed distribution to the holders of our common stock. Deemed distributions will be taxed in the manner described below under "Tax Consequences to United States Holders--Taxation of Distributions on Common Stock."

TAXATION OF DISTRIBUTIONS ON COMMON STOCK

Distributions, if any, paid with respect to shares of our common stock after a conversion, other than certain pro rata distributions of common shares, will be treated as dividends to the extent paid out of current or accumulated earnings and profits (as determined under U.S. federal income tax principles)

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

and will be includible in income by the United States Holder. If a distribution exceeds our current and accumulated earnings and profits, the excess will be first treated as a tax-free return of the United States Holder's investment, up to the United States Holder's tax basis in the shares of common stock. Any remaining excess will be treated as capital gain. Dividends received by certain noncorporate United States Holders on shares of common stock may be subject to U.S. federal income tax at lower rates than other types of ordinary income if certain holding period requirements and other conditions are met. United States Holders should consult their own tax advisers regarding the applicability of such reduced tax rates in their particular circumstances.

CERTAIN PAYMENTS ON COMMON STOCK

If we fail to comply with our obligations under "Description of Notes--Registration Rights of the Noteholders," we may be required to make payments to noteholders who have converted their notes into shares of common stock. The tax treatment of any such payments for U.S. federal income tax purposes is unclear. However, any such payment would most likely constitute ordinary income to a stockholder at the time it is accrued or received in accordance with the holder's regular method of tax accounting. Those payments likely would not qualify for the reduced rate of tax applicable to dividends as described above.

SALE OR OTHER DISPOSITION OF COMMON STOCK

Unless a nonrecognition provision applies, subject to the discussion above regarding market discount, gain or loss realized by a United States Holder on the sale or other disposition of shares of our common stock received upon conversion of a note will be recognized as capital gain or loss for U.S. federal income tax purposes, and will be long-term capital gain or loss if the United States Holder held the shares of common stock for more than one year. The amount of the United States Holder's gain or loss will be equal to the difference between the United States Holder's tax basis in the shares of common stock disposed of and the amount realized on the disposition.

TAX CONSEQUENCES TO NON-UNITED STATES HOLDERS

As used herein, the term "Non-United States Holder" means a beneficial owner of a note or shares of our common stock that is not a United States Holder, as defined above.

TAXATION OF INTEREST

Subject to the discussion below regarding backup withholding, interest income on the notes paid to a Non-United States Holder will be exempt from U.S. federal income and withholding tax, provided that:

- the Non-United States Holder does not own, actually or constructively, 10% or more of the total combined voting power of all classes of our stock entitled to vote and is not a controlled foreign corporation related, directly or indirectly, to us through stock ownership and is not a bank receiving certain types of interest,
- the certification requirement described below has been fulfilled with respect to the Non-United States Holder, and
- such interest is not effectively connected with the conduct by such Non-United States Holder of a trade or business in the United States.

The certification requirement referred to above will be fulfilled if

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

the beneficial owner of a note certifies on IRS Form W-8BEN, under penalties of perjury, that it is not a U.S. person and provides its name and address.

Interest income on the notes that is not exempt from U.S. federal income and withholding tax generally will be subject to U.S. withholding tax at a 30% rate, subject to reduction by an applicable treaty, unless such income is effectively connected income as described below in "Tax Consequences to Non-United States Holders--Effectively Connected Income."

45

Additional interest received by an initial purchaser that is a Non-United States Holder if the notes are not registered with the SEC within prescribed time periods or in certain other circumstances described above in "Description of the Notes--Registration Rights of the Noteholders" and any extraordinary distributions received by Non-United States Holders of the notes as described above under "Description of the Notes--Conversion of Notes" may not be exempt from U.S. withholding tax as described above. Holders should consult with their own tax advisers regarding such determination.

SALE, EXCHANGE OR OTHER DISPOSITION OF NOTES OR COMMON STOCK

Subject to the discussion below regarding backup withholding, a Non-United States Holder generally will not be subject to U.S. federal income and withholding tax on gain realized on a sale, exchange or other disposition (other than a conversion into shares of our common stock, which is described below) of the notes or of shares of our common stock, unless:

- the gain is effectively connected with the conduct by such Non-United States Holder of a trade or business in the United States,
- in the case of a Non-United States Holder who is a nonresident alien individual, the individual is present in the United States for 183 or more days in the taxable year of the sale, exchange or disposition and certain other conditions are met, or
- we are or have been a U.S. real property holding corporation at any time within the shorter of the five year period preceding such sale, exchange or disposition and the period the Non-United States Holder held the notes or common stock. We believe that we are not, and do not anticipate becoming, a U.S. real property holding corporation for U.S. federal income tax purposes.

Any gain realized on a sale, exchange or other disposition of the notes taxed as interest income will be subject to the rules described above regarding taxation of interest.

CONVERSION OF NOTES INTO COMMON STOCK

Non-United States Holders generally will not be subject to U.S. federal income and withholding tax on the conversion of a note into shares of our common stock. However, any gain recognized by a Non-United States Holder on the conversion of a note into shares of our common stock due to the receipt of cash in lieu of a fractional share will be subject to the rules described above regarding the sale, exchange or other disposition of a note, and any shares taxable as interest income will be subject to the rules described above regarding taxation of interest.

DISTRIBUTIONS ON NOTES AND COMMON STOCK

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

If a Non-United States Holder of a note were deemed to have received a constructive dividend (see "Tax Consequences to United States Holders-Constructive Distributions" above), the Non-United States Holder generally will be subject to U.S. withholding tax at a 30% rate, subject to reduction by an applicable treaty, on the taxable amount of the dividend unless such income is effectively connected income as described below in "Tax Consequences to Non-United States Holders-Effectively Connected Income." In addition, dividends paid to a Non-United States Holder of our common stock generally will be subject to U.S. withholding tax at a 30% rate, subject to reduction under an applicable treaty, unless such income is effectively connected income as described below in "Tax Consequences to Non-United States Holders-Effectively Connected Income." In order to obtain a reduced rate of withholding, a Non-United States Holder will be required to provide a properly executed IRS Form W-8BEN certifying its entitlement to benefits under a treaty. A Non-United States Holder who is subject to withholding tax under such circumstances should consult his own tax adviser as to whether he can obtain a refund for all or a portion of the withholding tax.

If we fail to comply with our obligations under "Description of Notes--Registration Rights of the Noteholders," we may be required to make payments to noteholders who have converted their notes into shares of common stock. The tax treatment of any such payments for U.S. federal income tax purposes is unclear. Any such payment made to a Non-United States Holder of our common stock likely would be subject to U.S. withholding tax at a 30% rate unless such payment is effectively connected income as described below in "Tax Consequences to Non-United States Holders-Effectively Connected Income," but such payments likely would not qualify as "dividends" for purposes of determining the applicability of any exemption from, or reduced rate of, the withholding tax under a treaty.

46

EFFECTIVELY CONNECTED INCOME

If a Non-United States Holder of a note or of our common stock is engaged in a trade or business in the United States, and if interest on the note, gain realized on a sale, exchange or other disposition of the note or of our common stock, or a dividend on the note or on our common stock, is effectively connected with the conduct of the trade or business, the Non-United States Holder, although exempt from U.S. withholding tax, will generally be taxed in the same manner as a United States Holder (see "Tax Consequences to United States Holders" above), except that the Non-United States Holder will be required to provide a properly executed IRS Form W-8ECI in order to claim an exemption from withholding tax. These Non-United States Holders should consult their own tax advisers with respect to other tax consequences of the ownership of the note or of our common stock, including the possible imposition of a 30% branch profits tax.

BACKUP WITHHOLDING AND INFORMATION REPORTING

Information returns may be filed with the Internal Revenue Service in connection with payments on the notes and our common stock and the proceeds from a sale or other disposition of the notes or our common stock. A United States Holder may be subject to United States backup withholding tax on these payments if it fails to provide its taxpayer identification number to the paying agent and comply with certification procedures or otherwise establish an exemption from backup withholding. A Non-United States Holder may be subject to United States backup withholding tax on these payments unless the Non-United States

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

Holder complies with certification procedures to establish that it is not a U.S. person. The amount of any backup withholding from a payment will be allowed as a credit against the holder's U.S. federal income tax liability and may entitle the holder to a refund, provided that the required information is timely furnished to the Internal Revenue Service.

THE PRECEDING DISCUSSION OF CERTAIN UNITED STATES FEDERAL INCOME TAX CONSEQUENCES IS FOR GENERAL INFORMATION ONLY AND MAY NOT BE APPLICABLE DEPENDING UPON A HOLDER'S PARTICULAR SITUATION. ACCORDINGLY, EACH INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR AS TO PARTICULAR TAX CONSEQUENCES TO IT OF PURCHASING, HOLDING AND DISPOSING OF THE NOTES AND THE COMMON STOCK INTO WHICH THE NOTES MAY BE CONVERTED OR FOR WHICH THE NOTES MAY BE EXCHANGED, INCLUDING THE APPLICABILITY AND EFFECT OF ANY STATE, LOCAL OR FOREIGN TAX LAWS, AND OF ANY PROPOSED CHANGES IN APPLICABLE LAWS.

47

SELLING HOLDERS

The notes were originally issued by us and sold by SG Cowen & Co., LLC, Needham & Company, Inc., Wells Fargo Securities, LLC and WR Hambrecht + Co, LLC, as the initial purchasers, in a transaction exempt from the registration requirements of the Securities Act to qualified institutional buyers. Selling holders, including their transferees, pledgees or donees or their successors, may from time to time offer and sell any or all of the notes and common stock into which the notes are convertible.

The selling holders have represented to us that they purchased the notes and the common stock issuable upon conversion of the notes for their own account for investment only and not with a view toward selling or distributing them, except through sales registered under the Securities Act or exemptions. We agreed with the initial purchasers to file this registration statement to register the resale of the notes and the common stock. We also agreed to prepare and file all necessary amendments and supplements to the registration statement to keep it effective until the date on which the notes and the common stock issuable upon conversion of the notes no longer qualify as "registrable securities" under our registration rights agreement.

The following table shows information, as of November 1, 2004, with respect to the selling holders and the principal amounts of notes and common stock they beneficially own that may be offered under this prospectus. The information is based on information provided by or on behalf of the selling holders.

The following table sets forth:

(1) the name of each selling holder who has provided us with notice as of the date of this prospectus pursuant to the registration rights agreement that they may intend to sell or otherwise dispose of notes and/or shares of common stock issuable upon conversion of the notes pursuant to the registration statement,

(2) the principal amount of notes and the number of shares of our common stock issuable upon conversion of the notes that they may sell from time to time pursuant to the registration statement, and

(3) the amount of outstanding notes and shares of our common stock beneficially owned by the selling holder after completion of the offering (excluding any shares owned or acquired other than upon conversion of the notes).

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

To our knowledge, no selling holder nor any of its affiliates has held any position or office with, been employed by or otherwise has had any material relationship with us or our affiliates, during the three years prior to the date of this prospectus, except that SG Cowen & Co., LLC, Needham & Company, Inc., Wells Fargo Securities, LLC and WR Hambrecht + Co, LLC were the initial purchasers of the notes and served as underwriters of our offering of 4,645,000 shares of our common stock on August 7, 2003.

A selling holder may offer all or some portion of the notes and shares of the common stock issuable upon conversion of the notes. Accordingly, no estimate can be given as to the amount or percentage of notes or our common stock that will be held by the selling holders upon termination of sales pursuant to this prospectus. In addition, the selling holders identified below may have sold, transferred or disposed of all or a portion of their notes since the date on which they provided the information regarding their holdings in transactions exempt from the registration requirements of the Securities Act.

The information contained under the column heading "Shares of Common Stock That May Be Sold" represents shares issuable upon conversion of the principal amount of notes listed and assumes conversion of the full amount of the notes at the initial conversion rate of 33.5909 shares per \$1,000 in principal amount of the notes. The name "Unidentified Holders" represents the remaining selling holders. We are unable to provide the names of these holders because certain of these notes are currently evidenced by a global convertible note which has been deposited with DTC and registered in the name of Cede & Co. as DTC's nominee.

48

NAME	PRINCIPAL AMOUNT OF NOTES BENEFICIALLY OWNED THAT MAY BE SOLD (\$)	SHARES OF COMMON STOCK THAT MAY BE SOLD	PRINCIPAL AMOUNT OF NOTES OWNED AFTER COMPLETION OF OFFERING (\$)
Polaris Vega Fund L.P.	1,600,000	53,745	0
Pioneer U.S. High Yield Corp.	3,900,000	131,005	0
Pioneer High Yield Fund	34,600,000	1,162,245	0
Pioneer High Yield VCT Portfolio	375,000	12,597	0
GE Singapore Life Insurance Fund	125,000	4,199	0
SG Americas Securities, LLC	5,400,000	181,391	0
Sunrise Partners Limited Partnership	4,900,000	164,595	0
UBS AG London - F/B/O HFS	3,000,000	100,773	0
UBS O'Connor LLC - F/B/O O'Connor Global Convertible Arbitrage Master Ltd.	500,000	16,795	0
Wachovia Bank National Association	9,000,000	302,318	0
CooperNeff Convertible Strategies (Cayman) Master Fund, LP	649,000	21,800	0
Singlehedge US Convertible Arbitrage Fund	136,000	4,568	0
Lyxor/Convertible Arbitrage Fund Limited	109,000	3,661	0
BNP Paribas Equity Strategies, SNC	586,000	19,684	0
Sturgeon Limited, Washington Mall - Phase I	120,000	4,031	0
Allstate Insurance Company	1,000,000	33,591	0
Highbridge International, LLC	3,500,000	117,568	0
Putnam Convertible Income-Growth Trust	4,300,000	144,441	0
Fidelity Financial Trust: Fidelity			

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

Convertible Securities Fund	9,000,000	302,318	0
DBAG London	1,500,000	50,386	0
Unidentified Holders	15,700,000	527,377	0

(1) For purposes of the information set forth in this table, we have assumed, unless informed otherwise by the selling holder, that each selling holder beneficially owns no shares of our common stock other than shares issuable upon conversion of the notes.

Information concerning the selling holders may change from time to time and any changed information will be set forth in supplements to this prospectus if and when necessary. In addition, the per share conversion price, and therefore the number of shares of common stock issuable upon conversion of the notes, is subject to adjustment. As a result, the aggregate principal amount of notes and the number of shares of common stock into which the notes are convertible may increase or decrease.

49

PLAN OF DISTRIBUTION

The selling holders and their successors, including their transferees, pledgees or donees or their successors, may sell the notes and our common stock into which the notes are convertible directly to purchasers or through underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions from the selling holders or the purchasers. These discounts, concessions or commissions as to any particular underwriter, broker-dealer or agent may be in excess of those customary in the types of transactions involved.

The notes and common stock issuable upon conversion of the notes may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market prices, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions:

- on any national securities exchange or U.S. inter-dealer system of a registered national securities association on which the notes or our common stock may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing of options, whether the options are listed on an options exchange or otherwise; or
- through the settlement of short sales.

In connection with the sale of the notes and the common stock issuable upon conversion of the notes, the selling holders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the notes or common stock issuable upon conversion of the notes in the course of hedging the positions they assume. The selling holders may also sell the notes or common stock short and deliver these securities to close out their short positions, or loan or pledge the notes or common stock issuable upon conversion of the notes to broker-dealers that in turn may sell these securities.

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

The aggregate proceeds to the selling holders from the sale of the notes or common stock offered by them will be the purchase price of the notes or common stock less discounts and commissions, if any. Each of the selling holders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of notes or common stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

Our common stock is listed for trading on The Nasdaq National Market under the symbol "EPIX." The notes are currently eligible for trading on the PORTAL System of the NASD.

In order to comply with the securities laws of some states, if applicable, the notes and common stock issuable upon conversion of the notes may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the notes and common stock issuable upon conversion of the notes may not be sold unless they have been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

The selling holders and any underwriters, broker-dealers or agents that participate in the sale of the notes and common stock issuable upon conversion of the notes may be "underwriters" within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling holders who are "underwriters" within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act. The selling holders have acknowledged that they understand their obligations to comply with the provisions of the Exchange Act and the rules thereunder relating to stock manipulation, particularly Regulation M.

50

In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 or Rule 144A of the Securities Act may be sold under Rule 144 or Rule 144A rather than pursuant to this prospectus.

To the extent required, the specific notes or shares of our common stock to be sold, the names of the selling holders, the respective purchase prices and public offering prices, the names of any agent, dealer or underwriter, and any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement of which this prospectus is a part.

We entered into a registration rights agreement for the benefit of holders of the notes to register their notes and our common stock issuable upon conversion of the notes under applicable federal and state securities laws under specific circumstances and at specific times. The registration rights agreement provides for cross-indemnification of the selling holders and us and our respective directors, officers and controlling persons against specific liabilities in connection with the offer and sale of the notes and our common stock issuable upon conversion of the notes, including liabilities under the Securities Act.

LEGAL MATTERS

Certain legal matters relating to the notes and the common stock issuable upon conversion of the notes offered hereby will be passed upon for us by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts.

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

EXPERTS

The financial statements of EPIX Pharmaceuticals, Inc. appearing in EPIX Pharmaceuticals, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2003 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon included therein and incorporated herein by reference. Such financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other documents with the Securities and Exchange Commission. You may read and copy any document we file with the SEC at the public reference facilities the SEC maintains at:

Room 1024, Judiciary Plaza
450 Fifth Street, N.W.
Washington, D.C. 20549

Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms.

The SEC also maintains a Web site, the address of which is <http://www.sec.gov>. That site also contains our annual, quarterly and special reports, proxy statements, information statements and other information.

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and the securities, including exhibits and schedules. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC's Web site.

You may also inspect our reports and other information concerning us at the offices of the National Association of Securities Dealers, Inc. 1735 K Street, N.W., Washington, D.C. 20006.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus and information we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, PROVIDED, HOWEVER, that we are not

51

incorporating any information furnished under either Item 2.02 or Item 7.01 (or their predecessor items) of the Form 8-K. The documents we are incorporating by reference are:

- Annual Report on Form 10-K for the year ended December 31, 2003, filed with the SEC on March 8, 2004 (File No. 000-21863);
- Quarterly Reports on Form 10-Q for our fiscal quarters ended June 30, 2004, filed with the SEC on August 3, 2004, March 31, 2004, filed with the SEC on May 5, 2004 and September 30, 2004, filed with the SEC on November 2, 2004 (File No. 000-21863);

Edgar Filing: EPIX Pharmaceuticals, Inc. - Form 424B3

- Definitive Proxy Statement filed with the SEC for our Annual Meeting of Stockholders held on May 26, 2004 (File No. 000-21863);
- Reports on Form 8-K filed with the SEC on January 14, 2004, February 17, 2004, June 7, 2004, June 8, 2004, July 15, 2004, August 5, 2004, September 7, 2004, September 21, 2004, October 4, 2004, October 27, 2004, and November 3, 2004 (File No. 000-21863); and
- The description of our common stock contained in "Description of Capital Stock" in the registration statement on Form S-1 filed with the SEC on January 30, 1997 (File No. 333-17581) and any amendments or reports filed to update such description.

You may request, orally or in writing, a copy of these documents, which will be provided to you at no cost, by contacting:

Investor Relations
EPIX Pharmaceuticals, Inc.
161 First Street
Cambridge, Massachusetts 02142
Telephone: (617) 250-6000

We maintain a website at www.epixpharma.com. The information contained on our website does not constitute a part of this prospectus.