CORTEX PHARMACEUTICALS INC/DE/
Form 424B5
January 18, 2007
Table of Contents

PROSPECTUS SUPPLEMENT NO. 1
(TO PROSPECTUS DATED NOVEMBER 30, 2006)

Filed pursuant to Rule 424(b)(5)
Registration Statement No. 333-138844

Cortex Pharmaceuticals, Inc.

5,021,427 Shares of Common Stock

Warrants to Purchase 3,263,927 Shares of Common Stock

We are offering 5,021,427 shares of our common stock, $0.001 par value per share, and warrants to purchase up to 3,263,927 shares of our common stock. The common stock and warrants will be sold in units, with each unit consisting of one share of common stock and a warrant to purchase 0.65 shares of common stock at an exercise price of $1.66 per share of common stock. Each unit will be sold at a negotiated price of $1.12. Units will not be issued or certificated. The shares of common stock and warrants are immediately separable and will be issued separately.

Our common stock is listed on the American Stock Exchange under the symbol COR. The last reported sale price of our common stock on January 12, 2007 was $1.32 per share.

Before you invest, you should carefully read this prospectus supplement, the accompanying prospectus and all information incorporated by reference therein. These documents contain information you should consider when making your investment decision.

Investing in our common stock and warrants involves a high degree of risk. Please see the section entitled Risk Factors beginning on page S-4 of this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

We have retained Roth Capital Partners, LLC to act as our placement agent in connection with the common stock and warrants offered by this prospectus supplement and the accompanying prospectus. We have agreed to pay Roth Capital Partners, LLC the aggregate placement agent fees set forth in the table below. The placement agent is not purchasing or selling any of these securities nor is it required to sell any specific number or dollar amount of securities, but has agreed to use its best efforts to sell the securities offered by this prospectus supplement.

	Per Unit	Maximum Offering Amount
Public offering price	$ 1.120	$ 5,623,998
Placement agent fees	$ 0.078	$ 393,680
Proceeds, before expenses, to us	$ 1.042	$ 5,230,318

We expect the total offering expenses, excluding placement agent fees, to be approximately $147,000 for all sales pursuant to this prospectus supplement. Because there is no minimum offering amount required as a condition to closing this offering, the actual public offering amount, placement agent fees, and proceeds to us, if any, are not presently determinable and may be substantially less than the maximum amounts set forth above.

The closing of this offering is subject to certain conditions, including the approval of The American Stock Exchange for the listing of the shares of common stock and the approval by the Corporate Financing Department of the National Association of Securities Dealers, Inc. Delivery of

the units is expected to be made on or about January 22, 2007, against payment in immediately available funds.

Roth Capital Partners

The date of this prospectus supplement is January 16, 2007.

Table of Contents

TABLE OF CONTENTS

Prospectus Supplement

Prospectus

We are offering to sell, and seeking offers to buy, shares of our common stock and warrants to purchase common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the offering of the common stock and warrants to purchase common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of the common stock and warrants to purchase common stock and the distribution of this prospectus supplement outside the United States. This prospectus supplement does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Table of Contents

SUMMARY

About This Prospectus Supplement

This summary highlights selected information about us and this offering. This information is not complete and does not contain all the information you should consider before investing in our common stock and warrants pursuant to this prospectus supplement and the accompanying prospectus. You should carefully read this entire prospectus supplement and the accompanying prospectus, including Risk Factors contained in this prospectus supplement and the financial statements and the other information that we incorporated by reference in the accompanying prospectus, before making an investment decision.

We are providing information to you about our company and this offering of shares of our common stock and warrants in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering and certain other matters relating to us. The second part is the accompanying prospectus, which provides more general information about securities that we may offer from time to time, some of which may not apply to this offering.

We urge you to read this prospectus supplement carefully, including the accompanying prospectus and the documents incorporated by reference, including the risk factors and our consolidated financial statements and the notes to those statements.

You should rely only on the information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus. If the description varies between this prospectus supplement and the accompanying prospectus, you should rely on the information in this prospectus supplement. We have not, and the placement agent has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it.

We are not making an offer of these securities in any jurisdiction where the offer is not permitted. You should assume that information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus is accurate only as of the date on the front cover of this prospectus supplement, the accompanying prospectus or the date of the document incorporated by reference, as applicable. Our business, financial condition, results of operations and prospects may have changed since those dates.

Unless we state otherwise or the context indicates otherwise, references to Cortex, Company, we, us and our in this prospectus supplement a the accompanying prospectus refer to Cortex Pharmaceuticals, Inc. Generally, when we refer to this prospectus we are referring to both this prospectus supplement and the accompanying prospectus together.

This offering of common stock and warrants is being made under a registration statement on Form S-3 (registration file no. 333-138844) that we filed with the Securities and Exchange Commission as part of a shelf registration process. Under the shelf registration process, we may offer to sell shares of our common stock, $0.001 par value, shares of our preferred stock, $0.001 par value, or warrants to purchase shares of our common stock and/or preferred stock, from time to time in one or more offerings up to a total dollar amount of $35,000,000.

We are not making any representation to you regarding the legality of an investment in the common stock and warrants by you under applicable law. You should consult with your own legal advisors as to the legal, tax, business, financial and related aspect of a purchase of the common stock and warrants.

Table of Contents

About Cortex Pharmaceuticals

Cortex is engaged in the discovery and development of innovative pharmaceuticals for the treatment of neurodegenerative diseases and other neurological and psychiatric disorders. Our primary focus is to develop a novel pharmacology that positively modulates AMPA-type glutamate receptors, a complex of proteins that is involved in communication between nerve cells in the human brain. We are developing a family of proprietary pharmaceuticals known as AMPAKINE® compounds that enhance the activity of this receptor. We believe that AMPAKINE compounds hold promise for correcting neurological and psychiatric diseases and disorders that are known, or thought, to involve depressed functioning of pathways in the brain that use glutamate as a neurotransmitter.

The AMPAKINE platform addresses large potential markets. Our business plan involves partnering with larger pharmaceutical companies for research, development, clinical testing, manufacturing and global marketing of AMPAKINE products for those indications that require sizable, expensive Phase III clinical trials and very large sales forces to achieve significant market penetration. At the same time, we plan to develop internally a selected set of indications, eligible for Orphan Drug status. These indications typically require more modest investment in the development stages, follow a quicker regulatory path to approval, and involve a more concentrated and smaller sales force targeted at selected medical centers and a limited number of medical specialists in the United States. If we are successful in the pursuit of this operating strategy, we may be in a position to contain our costs over the next few years, to maintain our focus on the research and early development of novel pharmaceuticals (where we believe that we have the ability to compete) and eventually to participate more fully in the commercial development of AMPAKINE products in the United States.

In early March 2006, we announced positive statistical and clinical results with our AMPAKINE CX717 in a Phase IIa clinical study in adults with Attention Deficit Hyperactivity Disorder (ADHD). The primary outcome measure for the study was the ADHD Rating Scale, which evaluates both inattentiveness and hyperactivity symptoms. Our clinical trial with CX717 showed statistical significance in both of these symptoms. In late March 2006, the Food and Drug Administration (FDA) placed a clinical hold on CX717 related to concerns over some preclinical animal data. In early September 2006, we submitted a response to the FDA, who removed the clinical hold on CX717 in early October 2006, but stipulated a limited dose range for further clinical testing of the compound. That dose limitation impacts our ability to conduct further clinical studies in ADHD. We expect to have additional toxicological data available in early 2007, which we plan to submit to the FDA to determine if the new information supports clinical investigations at dosage levels that would allow us to proceed with further clinical development of CX717 in ADHD.

More comprehensive information about us is available through our Internet website at http://www.cortexpharm.com. The information on our website is not incorporated by reference into this prospectus. Our executive offices are located at 15241 Barranca Parkway, Irvine, California 92618, and our telephone number is (949) 727-3157.

Table of Contents

The Offering

Common stock offered by us:	5,021,427 shares
Common stock to be outstanding after this offering:	39,974,448 shares
Warrants:	Warrants to purchase 3,263,927 shares of common stock will be offered in this offering. The warrants will be exercisable at any time on or after July 22, 2007 and on or before the close of the Company s business on January 21, 2012 at an exercise price of $1.66 per share of common stock. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the warrants.
Risk Factors:	See Risk Factors beginning on page S-4 for a discussion of factors that you should read and consider before investing in our securities
Use of proceeds:	We currently anticipate that the net proceeds from the sale of the common stock and warrants, excluding proceeds from the exercise of warrants, if any, will be approximately $5,084,000. The net proceeds from this offering will be added to our general funds and used to accelerate our AMPAKINE technology, licensing activities, working capital, capital expenditures and other general corporate purposes. Please see Use of Proceeds on page S-12.
The American Stock Exchange Symbol:	COR

The number of shares of our common stock that will be outstanding immediately after the offering is based on 34,953,021 shares outstanding as of January 12, 2007. Unless we specifically state otherwise, the share information in this prospectus supplement excludes:

- 9,767,156 shares of common stock issuable upon the exercise of stock options outstanding prior to this offering under our equity incentive plans, at a weighted average exercise price of $2.04 per share;
- 326,549 shares of common available for future grants under our equity incentive plans;
- 3,679 shares of common stock issuable upon the conversion of outstanding Series B convertible preferred stock, at a conversion price of $6.795 per share;
- 8,038,450 shares of common stock issuable upon the exercise of warrants outstanding prior to this offering, at a weighted average exercise price of $3.01 per share; and
- 3,263,927 shares of common stock issuable upon the exercise of warrants to be issued in this offering, at an exercise price of $1.66 per share.

Table of Contents

RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully all the information we have included or incorporated by reference in this prospectus supplement and the accompanying prospectus. In addition, you should carefully consider the risk factors described below related to this offering and an investment in our securities. If any of these risks actually occurs, our business, financial condition, results of operations and cash flow could be seriously harmed. This could cause the trading price of our common stock and the value of the warrants offered hereby to decline, resulting in a loss of all or part of your investment.

Risks related to our business

We have a history of net losses; we expect to continue to incur net losses and we may never achieve or maintain profitability.

Since our formation on February 10, 1987 through September 30, 2006, we have generated only modest operating revenues and we have incurred net losses approximating $76,295,000. For the nine months ended September 30, 2006, our net loss was approximately $12,592,000. For the years ended December 31, 2005 and 2004, our net losses were approximately $11,606,000 and $6,234,000, respectively. For the six months ended December 31, 2004 and 2003 and fiscal year ended June 30, 2004, our net losses amounted to approximately $4,046,000, $3,806,000 and $5,994,000, respectively. As of September 30, 2006, we had an accumulated deficit of approximately $78,327,000. We have not generated any revenue from product sales to date, and it is possible that we will never generate revenues from product sales in the future. Even if we do achieve significant revenues from product sales, we expect to incur significant operating losses over the next several years. As with other companies in the biotechnology industry, it is possible that we will never achieve profitable operations.

We will need additional capital in the future and, if it is not available on terms acceptable to us, or at all, we may need to scale back our research and development efforts and may be unable to continue our business operations.

We will require substantial additional funds to advance our research and development programs and to continue our operations, particularly if we decide to independently conduct later-stage clinical testing and apply for regulatory approval of any of our proposed products, and if we independently undertake marketing and promotion of our products. Additionally, we may require additional funds in the event that we decide to pursue strategic acquisitions of or licenses for other products or businesses. Based on our current operating plan, including planned clinical trials and other product research and development costs, we estimate that our existing cash resources and the proceeds from this offering will be sufficient to meet our requirements into calendar year 2008. However, we believe that we will require additional capital to fund on-going operations beyond that time. Additional funds may result from milestone payments related to our agreements with Organon and Servier, although there is no assurance that we will receive milestone payments from Organon or Servier within the desired timeframe, or at all. Additional funds also may result from the exercise of warrants to purchase shares of our common stock. As of December 31, 2006, warrants to purchase up to approximately 8,300,000 shares of our common stock were outstanding. If these warrants are fully exercised, of which there can be no assurance, such exercise would provide approximately $25,000,000 of additional capital. Additionally, if the warrants to purchase up to 3,263,927 shares of our common stock to be issued in connection with this offering are fully exercised, of which there can be no assurance, such exercise would provide approximately $5,400,000 of additional capital.

Our cash requirements in the future may be significantly different from our current estimates and depend on many factors, including:

- the results of our clinical trials;
- the time and costs involved in obtaining regulatory approvals;
- the costs of setting up and operating our own marketing and sales organization;
- the ability to obtain funding under contractual and licensing agreements;

Table of Contents

the costs involved in obtaining and enforcing patents or any litigation by third parties regarding intellectual property; and

our success in entering into collaborative relationships with other parties.

To finance our future activities, we may seek funds through additional rounds of financing, including private or public equity or debt offerings and collaborative arrangements with corporate partners. We cannot say with any certainty that we will be able to obtain the additional needed funds on reasonable terms, or at all. The sale of additional equity or convertible debt securities could result in additional dilution to our stockholders. If we issued preferred equity or debt securities, these securities could have rights superior to holders of our common stock, and could contain covenants that will restrict our operations. We might have to obtain funds through arrangements with collaborative partners or others that may require us to relinquish rights to our technologies, product candidates or products that we otherwise would not relinquish. If adequate funds are not available, we could lose our key employees and might have to delay, scale back or eliminate one or more of our research and development programs, which would impair our future prospects. In addition, we may be unable to meet our research spending obligations under our existing licensing agreements and may be unable to continue our business operations.

Our products rely on licenses from The Regents of the University of California, and if we lose access to these technologies, our business would be substantially impaired.

Under our agreements with The Regents of the University of California, we have exclusive rights to AMPAKINE compounds for all applications for which the University has patent rights, other than endocrine modulation.

Our rights to the AMPAKINE compounds are secured by patents or patent applications owned wholly by the University or by the University as a co-owner with us. Our existing agreements with the University require the University to prepare, file, prosecute and maintain patent applications related to our licensed rights at our expense. Such agreements also require us to make certain minimum annual payments, meet certain milestones or diligently seek to commercialize the underlying technology.

Under our agreements, we are required to make minimum annual royalty payments approximating $70,000. Separately, we are required to spend a minimum of $250,000 per year until we begin marketing an AMPAKINE compound. The commercialization efforts in the agreements require us to file for regulatory approval of an AMPAKINE compound before October 2007.

Although we currently are in compliance with our obligations under the agreements, including minimum annual payments and diligence milestones, our failure to meet any of these requirements could allow the University to terminate that particular agreement. Management believes that it maintains a strong relationship with the University.

We are at an early stage of development and we may not be able to successfully develop and commercialize our products and technologies.

The development of AMPAKINE products is subject to the risks of failure commonly experienced in the development of products based upon innovative technologies and the expense and difficulty of obtaining approvals from regulatory agencies. Drug discovery and development is time consuming, expensive and unpredictable. On average, only one out of many thousands of chemical compounds discovered by researchers proves to be both medically effective and safe enough to become an approved medicine. In the fields that we target, approximately one in five compounds placed in clinical trials generally reaches the market. All of our proposed products are in the preclinical or early clinical stage of development and will require significant additional funding for research, development and clinical testing before we are able to submit them to any of the regulatory agencies for clearances for commercial use. Our trials that are subject to our collaborative research arrangements are being funded by third parties and do not involve financial commitments from Cortex.

The process from discovery to development to regulatory approval can take several years and drug candidates can fail at any stage of the process. Late stage clinical trials often fail to replicate results achieved in

Table of Contents

earlier studies. Historically, in our industry more than half of all compounds in development failed during Phase II trials and 30% failed during Phase III trials. We cannot assure you that we will be able to complete successfully any of our research and development activities. Even if we do complete them, we may not be able to market successfully any of the products or be able to obtain the necessary regulatory approvals or assure that healthcare providers and payors will accept our products. We also face the risk that any or all of our products will not work as intended or that they will be unsafe, or that, even if they do work and are safe, that our products will be uneconomical to manufacture and market on a large scale. Due to the extended testing and regulatory review process required before we can obtain marketing clearance, we do not expect to be able to commercialize any therapeutic drug for several years, either directly or through our corporate partners or licensees.

We may not be able to enter into the strategic alliances necessary to fully develop and commercialize our products and technologies, and we will be dependent on our corporate partners if we do.

In addition to our agreements with Organon and Servier, we are seeking other pharmaceutical company partners to develop other major indications for the AMPAKINE compounds. These agreements would potentially provide us with additional funds in exchange for exclusive or non-exclusive license or other rights to the technologies and products that we are currently developing. Competition between biopharmaceutical companies for these types of arrangements is intense. Although we have been engaged in discussions with candidate companies for some time, we cannot give any assurance that these discussions will result in an agreement or agreements in a timely manner, or at all. Additionally, we cannot assure you that any resulting agreement will generate sufficient revenues to offset our operating expenses and longer-term funding requirements.

If we are unable to maintain our relationships with academic consultants and the University of California, Irvine, our business could suffer.

We depend upon our relationships with academic consultants, particularly Dr. Gary S. Lynch of the University of California, Irvine. Dr. Lynch plays a key role in guiding our research. In addition, we sponsor preclinical research in Dr. Lynch s laboratories at the University of California, Irvine that is part of our product development and corporate partnering profile. If our relationship with Dr. Lynch or the University of California, Irvine, is disrupted, our AMPA-receptor research program could be adversely affected. The term of our consulting agreement with Dr. Lynch commenced in November 1987 and will continue until terminated by either party to the agreement upon at least 60 days prior written notice to the other party. Our agreements with our other consultants are generally also terminable by the consultant on short notice. We maintain a positive relationship with Dr. Lynch and continue to fund research related to understanding the molecular actions of the AMPAKINE compounds and the AMPA receptor in his laboratory.

Risks related to our industry

If we fail to secure adequate intellectual property protection, it could significantly harm our financial results and ability to compete.

Our success will depend, in part, on our ability to get patent protection for our products and processes in the U.S. and elsewhere. We have filed and intend to continue to file patent applications as we need them. However, additional patents that may issue from any of these applications may not be sufficiently broad to protect our technology. Also, any patents issued to us or licensed by us may be designed around or challenged by others, and if such challenge is successful, it may diminish our rights.

If we are unable to obtain sufficient protection of our proprietary rights in our products or processes prior to or after obtaining regulatory clearances, our competitors may be able to obtain regulatory clearance and market competing products by demonstrating the equivalency of their products to our products. If they are successful at demonstrating the equivalency between the products, our competitors would not have to conduct the same lengthy clinical tests that we have conducted.

We also rely on trade secrets and confidential information that we try to protect by entering into confidentiality agreements with other parties. Those confidentiality agreements may be breached, and our remedies

Table of Contents

may be insufficient to protect the confidential information. Further, our competitors may independently learn our trade secrets or develop similar or superior technologies. To the extent that our consultants, key employees or others apply technological information independently developed by them or by others to our projects, disputes may arise regarding the proprietary rights to such information. We cannot assure you that such disputes will be resolved in our favor.

We may be subject to potential product liability claims. One or more successful claims brought against us could materially impact our business and financial condition.

The clinical testing, manufacturing and marketing of our products may expose us to product liability claims. We maintain liability insurance with coverage limits of $10 million per occurrence and $10 million in the annual aggregate. We have never been subject to a product liability claim, and we require each patient in our clinical trials to sign an informed consent agreement that describes the risks related to the trials, but we cannot assure you that the coverage limits of our insurance policies will be adequate or that one or more successful claims brought against us would not have a material adverse effect on our business, financial condition and result of operations. Further, if one of our AMPAKINE compounds is approved by the FDA for marketing, we cannot assure you that adequate product liability insurance will be available, or if available, that it will be available at a reasonable cost. Any adverse outcome resulting from a product liability claim could have a material adverse effect on our business, financial condition and results of operations.

We face intense competition that could result in products that are superior to the products that we are developing.

Our business is characterized by intensive research efforts. Our competitors include many companies, research institutes and universities that are working in a number of pharmaceutical or biotechnology disciplines to develop therapeutic products similar to those we are currently investigating. For example, the Pharmaceutical Research and Manufacturers of America recently estimated that more than 100 pharmaceutical and biotechnology companies are conducting research in the field of neurological disorders, with over 25 drugs under clinical investigation in the U.S. for the treatment of Alzheimer s disease. Virtually all of the major multinational pharmaceutical companies have active projects in these areas. Most of these competitors have substantially greater financial, technical, manufacturing, marketing, distribution and/or other resources than we do. In addition, many of our competitors have experience in performing human clinical trials of new or improved therapeutic products and obtaining approvals from the FDA and other regulatory agencies. We have no experience in conducting and managing later-stage clinical testing or in preparing applications necessary to obtain regulatory approvals. Accordingly, it is possible that our competitors may succeed in developing products that are safer or more effective than those that we are developing and may obtain FDA approvals for their products faster than we can. We expect that competition in this field will continue to intensify.

We may be unable to recruit and retain our senior management and other key technical personnel on whom we are dependent.

We are highly dependent upon key management and technical personnel and currently do not carry any insurance policies on such persons. In particular, we are highly dependent on our Chairman, President and Chief Executive Officer, Roger G. Stoll, Ph.D.; our Chief Scientific Officer and Chief Operating Officer, Mark A. Varney, Ph.D.; and our Vice President, Preclinical Development, Steven A. Johnson, Ph.D., all of whom have entered into employment agreements with us. Competition for qualified employees among pharmaceutical and biotechnology companies is significant. Because of our financial conditions as a biotechnology company, we may be unable to afford to retain or hire personnel with key technical skills required by our business. The loss of any of our key management or technical personnel, or our inability to attract, retain and motivate the additional highly-skilled employees and consultants that our business requires, could substantially hurt our business and prospects. We cannot assure you that we will be able to retain our existing personnel or attract additional qualified employees when we need them.

Table of Contents

The regulatory approval process is expensive, time consuming, uncertain and may prevent us from obtaining required approvals for the commercialization of some of our products.

The FDA and other similar agencies in foreign countries have substantial requirements for therapeutic products. Such requirements often involve lengthy and detailed laboratory, clinical and post-clinical testing procedures and are expensive to complete. It often takes companies many years to satisfy these requirements, depending on the complexity and novelty of the product. The review process is also extensive, which may delay the approval process even more. According to the Pharmaceutical Research and Manufacturers of America, historically the cost of developing a new pharmaceutical from discovery to approval was approximately $800 million, and this amount is expected to increase annually.

As of yet, we have not obtained any approvals to market our products. Further, we cannot assure you that the FDA or other regulatory agency will grant us approval for any of our products on a timely basis, if at all. Even if regulatory clearances are obtained, a marketed product is subject to continual review, and later discovery of previously unknown problems may result in restrictions on marketing or withdrawal of the product from the market.

Other risks

Our stock price may be volatile and our common stock could decline in value.

The market price of securities of life sciences companies in general has been very unpredictable. The range of sales prices of our common stock for the fiscal years ended December 31, 2006 and December 31, 2005, the six-month period ended December 31, 2004 and fiscal year ended June 30, 2004, as quoted on The American Stock Exchange, was $1.19 to $5.94, $1.96 to $3.03, $1.40 to $3.10 and $1.62 to $4.99, respectively. The following factors, in addition to factors that affect that market generally, could significantly impact our business, and the market price of our common stock could decline:

- competitors announcing technological innovations or new commercial products;
- competitors publicity regarding actual or potential products under development;
- regulatory developments in the U.S. and foreign countries;
- developments concerning proprietary rights, including patent litigation;
- public concern over the safety of therapeutic products; and
- changes in healthcare reimbursement policies and healthcare regulations.

There is a large number of shares of common stock that may be sold, which may depress the market price of our stock.

As of January 12, 2007, we had approximately 34,953,021 shares of common stock outstanding. Additionally, if all warrants and options outstanding as of such date are exercised prior to their expiration, approximately 18 million additional shares of common stock could become freely tradable. Sales of substantial amounts of common stock in the public market could adversely affect the prevailing market price of our common stock and also could make it more difficult for us to raise funds through future offerings of common stock.

Our charter document and shareholder rights plan may prevent or delay an attempt by our stockholders to replace or remove management.

Certain provisions of our restated certificate of incorporation, as amended, could make it more difficult for a third party to acquire control of our business, even if such change in control would be beneficial to our stockholders. Our restated certificate of incorporation, as amended, allows

our Board of Directors to issue up to 549,500 shares of preferred stock without stockholder approval. Pursuant to this authority, in February 2002 our Board of Directors adopted a shareholder rights plan and declared a dividend of a right to purchase one one-

Table of Contents

thousandth of a share of preferred stock for each outstanding share of our common stock. The ability of our Board of Directors to issue additional preferred stock and our shareholder rights plan may have the effect of delaying or preventing an attempt by our stockholders to replace or remove existing directors and management.

We may be unable to maintain the standards for listing on The American Stock Exchange, which could adversely affect the liquidity of our common stock.

Our common stock is currently listed on The American Stock Exchange. There are several requirements that we must satisfy in order for our common stock to continue to be listed on The American Stock Exchange. In the future, we may not comply with all of these listing requirements, which might result in the delisting of our common stock. Delisting from The American Stock Exchange could adversely affect the liquidity and the price of our common stock and could have a long-term adverse impact on our ability to raise future capital through a sale of shares of our common stock. If our common stock were delisted it would be traded on an electronic bulletin board established for securities that are not traded on a national securities exchange, Nasdaq or traded in quotations published by the National Quotations Bureau, Inc., commonly referred to as the pink sheets. If this occurs, it could be difficult to sell our securities or obtain the same level of market information as to the price of shares of our common stock as is currently available.

If our common stock were delisted and determined to be a penny stock, a broker-dealer may find it more difficult to trade our common stock and an investor may find it more difficult to acquire or dispose of our common stock in the secondary market.

In addition, if our common stock were delisted, it may be subject to the so-called penny stock rules. The SEC has adopted regulations that define a penny stock to be any equity security that has a market price per share of less than $5.00, subject to certain exceptions, such as any securities listed on a national securities exchange or quoted on Nasdaq. For any transaction involving a penny stock, unless exempt, the rules impose additional sales practice requirements on broker-dealers, subject to certain exceptions. If our common stock were delisted and determined to be a penny stock, a broker-dealer may find it more difficult to trade our common stock and an investor may find it more difficult to acquire or dispose of our common stock on the secondary market.

Risks related to this offering

Since we have broad discretion in how we use the proceeds from this offering, we may use the proceeds in ways in which you disagree.

We have not allocated specific amounts of the net proceeds from this offering for any specific purpose. Accordingly, our management will have significant flexibility in applying the net proceeds of this offering. You will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the net proceeds will be invested in a way that does not yield a favorable, or any, return for our Company. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flow.

Investors in this offering will pay a much higher price than the book value of our stock.

If you purchase common stock in this offering, you will incur an immediate and substantial dilution in net tangible book value of $0.714 per share, after giving effect to the sale by us of 5,021,427 shares of common stock and warrants to purchase up to 3,263,927 shares of common stock in this offering at a price to the public of $1.12 per unit.

Table of Contents

There is no public market for the warrants to purchase common stock in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing the warrants on any securities exchange or for quotation on The American Stock Exchange. Without an active market, the liquidity of the warrants will be limited.

Table of Contents

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Forward-looking statements are those that predict or describe future events or trends and that do not relate solely to historical matters. You can generally identify forward-looking statements as statements containing the words believe, expect, will, anticipate, intend, estimate, project, plan, assume or other similar expressions, or negatives of those expres not all forward-looking statements contain these identifying words. All statements contained or incorporated by reference in this prospectus supplement and the accompanying prospectus regarding our future strategy, future operations, projected financial position, estimated future revenues, projected costs, future prospects, the future of our industries and results that might be obtained by pursuing management s current plans and objectives are forward-looking statements.

You should not place undue reliance on our forward-looking statements because the matters they describe are subject to known and unknown risks, uncertainties and other unpredictable factors, many of which are beyond our control. Our forward-looking statements are based on the information currently available to us and speak only as of the date on the cover of this prospectus supplement or, in the case of forward-looking statements incorporated by reference, as of the date of the filing that includes the statement. New risks and uncertainties arise from time to time, and it is impossible for us to predict these matters or how they may affect us. Over time, our actual results, performance or achievements will likely differ from the anticipated results, performance or achievements that are expressed or implied by our forward-looking statements, and such difference might be significant and materially adverse to our security holders. We do not undertake and specifically decline any obligation to update any forward-looking statements or to publicly announce the results of any revisions to any statements to reflect new information or future events or developments.

We have identified some of the important factors that could cause future events to differ from our current expectations and they are described in this prospectus supplement under the caption Risk Factors as well as in our most recent Annual Report on Form 10-K, including, without limitation, under the captions Risk Factors and Management s Discussion and Analysis of Financial Condition and Results of Operations and in other documents that we may file with the SEC, all of which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this prospectus supplement and the accompanying prospectus.

Table of Contents

USE OF PROCEEDS

We estimate that the net proceeds of this offering, after deducting placement agent fees and our estimated offering expenses, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering, will be approximately $5,084,000 if we sell the maximum number of units.

We currently intend to use the net proceeds from this offering for working capital and for general corporate purposes, which may include, among other things, funding development of our AMPAKINE technology, licensing activities and capital expenditures.

We cannot estimate precisely the allocation of the net proceeds from this offering among these uses. The amounts and timing of the expenditures may vary significantly, depending on numerous factors, including the progress of our clinical trials and other development efforts as well as the amount of cash used in our operations. Accordingly, our management will have broad discretion in the application of the net proceeds of this offering. We reserve the right to change the use of proceeds as a result of certain contingencies such as competitive developments, opportunities to acquire technologies or products and other factors. Pending the uses described above, we may temporarily invest the net proceeds of this offering in short- and medium-term interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

Table of Contents

DILUTION

Purchasers of units offered by this prospectus supplement and the accompanying prospectus will suffer immediate and substantial dilution in the net tangible book value per share of common stock. Our net tangible book value as of September 30, 2006 was approximately $11,135,000, or approximately $0.318 per share of common stock. Net tangible book value per share represents the amount of total tangible assets less total liabilities, divided by the number of shares of our common stock outstanding as of September 30, 2006.

Dilution in net tangible book value per share represents the difference between the amount per unit paid by purchasers of units in this offering and the net tangible book value per share of our common stock immediately after this offering. After giving effect to our sale of 5,021,427 shares of common stock and warrants to purchase up to 3,263,927 shares of common stock in this offering at the public offering price of $1.12 per unit, and after deduction of the placement agent fees and estimated offering expenses payable by us, our net tangible book value as of September 30, 2006 would have been approximately $16,219,000, or $0.406 per share of common stock. This represents an immediate increase in net tangible book value of $0.088 per share of common stock to our existing stockholders and an immediate dilution in net tangible book value of ($0.714) per share of common stock to purchasers of units in this offering. The following table illustrates this per share dilution:

Public offering price per unit		$ 1.120
Net tangible book value per share as of September 30, 2006	$ 0.318	
Increase in net tangible book value per share attributable to this offering	$ 0.088	
Net tangible book value per share as of September 30, 2006, after giving effect to this offering		$ 0.406
Dilution in net tangible book per share to new investors		$ 0.714

New investors that purchase common stock upon exercise of warrants may experience dilution depending on our net tangible book value at the time of exercise.

The above table is based on 34,954,521 shares of our common stock outstanding as of September 30, 2006 (as adjusted for 5,021,427 shares to be issued in this offering) and excludes, as of September 30, 2006:

- 8,551,988 shares of common stock issuable upon the exercise of stock options outstanding prior to this offering under our equity incentive plans, at a weighted average exercise price of $2.17 per share;
- 1,833,549 shares of common available for future grants under our equity incentive plans;
- 3,679 shares of common stock issuable upon the conversion of outstanding Series B convertible preferred stock, at a conversion price of $6.795 per share;
- 8,311,409 shares of common stock issuable upon the exercise of warrants outstanding prior to this offering, at a weighted average exercise price of $3.02 per share; and
- 3,263,927 shares of common stock issuable upon the exercise of warrants to be issued in this offering, at an exercise price of $1.66 per share.

To the extent that any options or warrants are exercised, new options are issued under our equity incentive plans, or we otherwise issue additional shares of common stock in the future, there will be further dilution to new investors.

Table of Contents

DESCRIPTION OF SECURITIES WE ARE OFFERING

In this offering, we are offering a maximum of 5,021,427 units, consisting of 5,021,427 shares of common stock and warrants to purchase 3,263,927 shares of common stock. Each unit consists of one share of common stock and warrants to purchase 0.65 shares of common stock at an exercise price of $1.66 per share. This prospectus also relates to the offering of shares of our common stock upon exercise, if any, of the warrants.

Common Stock

The material terms and provisions of our common stock and each other class of our securities which qualifies or limits our common stock are described under the caption Description of Capital Stock starting on page 4 of the accompanying prospectus.

Warrants

The material terms and provisions of the warrants being offered pursuant to this prospectus are summarized below.

Exercisability. The warrants will be exercisable at any time on or after July 22, 2007 and on or before the close of our business on January 21, 2012. The warrants will be exercisable, at the option of each holder, upon the surrender of the warrants to us and the payment in cash, or in the case of a net exercise described below, by delivery of shares of common stock by the holder equal in value to the exercise price of the shares being acquired upon exercise of the warrants. Except upon at least 61 days prior notice from the holder to us, the holder will not have the right to exercise any portion of the warrant if the holder, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after the exercise.

Cashless Exercise. If after July 22, 2007 there is no effective registration statement registering the shares of common stock underlying the warrants, then the warrant may be exercised by means of a cashless exercise in which the holder will be entitled to surrender a portion of the shares of common stock subject to the warrant in lieu of cash for the exercise price.

Exercise Price. The exercise price per share of common stock purchasable upon exercise of the warrants is $1.66 per share of common stock being purchased. The exercise price is subject to appropriate adjustment in the event of stock dividends, stock splits, stock combinations, reclassifications or similar events affecting our common stock.

Call Right. If after July 22, 2007 the closing price for each of any thirteen consecutive trading days exceeds $3.35 per share, subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions, then we may, on one occasion per period and within two trading days following such period, call for cancellation of all or any portion of the warrants that have not yet been exercised. If we exercise our call right, the warrant holder will have a period of twenty trading days after receipt of notice from us to exercise the warrants subject to the notice or have them cancelled at 6:30 p.m. New York City time on the twentieth trading day. Our call right is only effective if from the beginning of the thirteen consecutive trading day triggering period and ending on the twenty trading days after receipt of notice from us we have honored all notices of exercise delivered to us prior to the expiration of such period, a registration statement is effective as to the shares of common stock underlying the warrants and our common stock is listed for trading on The American Stock Exchange, the New York Stock Exchange, the Nasdaq Global Select Market, the Nasdaq Global Market or the Nasdaq Capital Market.

Registration Rights. If at any time after July 22, 2007 there is no effective registration statement registering the shares of common stock underlying the warrants, we have agreed to use our best efforts to file a new registration statement on Form S-3 registering such shares of common stock.

Transferability. The warrants may be transferred at the option of the warrant holder, so long as the amount of warrants transferred is equal to at least 50,000 shares (on an as-exercised basis), upon surrender of the warrants to the warrant agent with the appropriate instruments of transfer and funds sufficient to pay any transfer taxes payable upon the making of such transfer.

Table of Contents

Effect of Merger, Consolidation or Sale of Assets. If we reorganize our capital, reclassify our capital stock, consolidate or merge with or into another corporation (where we are not the surviving corporation or where there is a change in or distribution with respect to our common stock), or sell, transfer or otherwise dispose of all or substantially all of our property, assets or business to another corporation and, pursuant the terms of such transaction our common stock is converted into or exchanged for other securities or property, the holder of any warrants will thereafter receive upon exercise of the warrants, the securities or property to which a holder of the number of shares of common stock then deliverable upon the exercise or conversion of such warrants would have been entitled upon such transaction.

Notwithstanding the foregoing, in the event that we consolidate or merge with or into another corporation (where we are not the surviving corporation), or sell, transfer or otherwise dispose of all or substantially all of our property, assets, business or capital stock to another corporation that is approved by our board of directors and where the consideration paid to the holders of our common stock consists solely of cash, if the consideration per share of common stock in such transaction is equal to or less than the exercise price of the warrant then in effect, then we (or the successor entity to the warrant) will purchase the warrant from the holder by paying the holder cash, in an amount equal to the value of the remaining unexercised portion of the warrant on the date of such transaction determined using a Black-Scholes option pricing model with an expected volatility equal to the 100 day historical price volatility obtained from Bloomberg L.P. as of the trading day immediately prior to the public announcement of the transaction.

Table of Contents

PLAN OF DISTRIBUTION

We have entered into a placement agency agreement, dated January 16, 2007, with Roth Capital Partners, LLC, or Roth Capital. Subject to the terms and conditions set forth in the agreement, Roth Capital has agreed to act as our placement agent in connection with this offering. Roth Capital is not purchasing any units offered by this prospectus supplement or the accompanying prospectus, nor is it required to arrange for the purchase or sale of any specific number or dollar amount of the units, but has agreed to use its best efforts to arrange for the sale of all of the units offered.

There is no requirement that any minimum number of units or dollar amount of units be sold in this offering and there can be no assurance that we will sell all or any of the units being offered.

The agreement with Roth Capital provides that the obligations of the investors are subject to certain conditions precedent, including, among other things, the absence of any material change in our business, and receipt of the approval by The American Stock Exchange for the listing of the shares of common stock, including the shares underlying the warrants, and the approval of the Corporate Financing Department of the National Association of Securities Dealers, Inc.

We currently anticipate that closing of this offering will take place on or about January 22, 2007. On the scheduled closing date, the following will occur:

- we will receive funds in the amount of the aggregate purchase price;
- Roth Capital will receive the placement agent s fee in accordance with the terms of the placement agency agreement; and
- we will deliver the units to the investors.

We have agreed to pay Roth Capital a commission equal to 7.0% of the gross proceeds of the sale of the units in this offering. We have also agreed to reimburse Roth Capital for up to $35,000 of expenses incurred by it in connection with this offering. In no event will the total amount of compensation paid to Roth Capital and other securities brokers and dealers upon completion of this offering exceed 8.0% of the gross proceeds of the offering. The estimated offering expenses payable by us, in addition to Roth Capital s fee of $393,680, are approximately $147,000, which includes legal, accounting and printing costs, reimbursement of certain expenses to Roth Capital, and various other fees associated with registering the securities and listing the common stock. After deducting certain fees due to Roth Capital and our estimated offering expenses, we expect the net proceeds from this offering to be approximately $5,084,000 if the maximum number of units are sold.

The following table shows the per unit and total commissions we will pay to Roth Capital in connection with the sale of the units offered pursuant to this prospectus supplement and the accompanying prospectus, assuming the purchase of all of the units offered hereby.

Per unit	$ 0.078
Maximum offering total	$ 393,680

Because there is no minimum offering amount required as a condition to closing in this offering, the actual total offering commissions, if any, are not presently determinable and may be substantially less than the maximum amount set forth above.

Roth Capital proposes to arrange for the sale to one or more purchasers of the units offered pursuant to this prospectus supplement and the accompanying prospectus directly through a subscription agreement between the purchasers and us.

We have agreed to indemnify Roth Capital against certain liabilities, including liabilities under the Securities Act and liabilities arising from breaches of representations and warranties contained in the placement agency agreement. We have also agreed to contribute to payments Roth Capital may be required to make in respect of such liabilities.

Table of Contents

Each of our officers and directors have agreed that, subject to certain limited exceptions, during the period ending 90 days after the date of this prospectus supplement, he or she will not, without the prior written consent of Roth Capital, directly or indirectly offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, warrant or right to purchase, lend, or otherwise dispose of any shares of common stock or any securities that may be converted into, exercised or exchanged for any such shares of common stock or enter into any swap or other arrangement that transfers to another person, in whole or in part, the economic consequences of ownership of common stock or any securities convertible into or exercisable or exchangeable for common stock.

The 90-day restricted period described above is subject to automatic extension such that, in the event that either (1) during the last 17 days of the 90-day period, we issue an earnings release or material news or a material event relating to us occurs or (2) prior to the expiration of the 90-day restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the 90-day period, the lock-up restrictions described above will, subject to limited exceptions, continue to apply until the date that is 18 days after the date of issuance of the earnings release or the occurrence of the material news or material event.

The placement agency agreement with Roth Capital, including the form of subscription agreement and lock-up letter as exhibits thereto, and the form of warrant with investors in this offering will be included as exhibits to our Current Report on Form 8-K that will be filed with the SEC in connection with the consummation of this offering.

The transfer agent for our common stock is American Stock Transfer & Trust Company. We will act as transfer agent for the warrants being offered hereby.

Our common stock is traded on The American Stock Exchange under the symbol COR. The warrants to purchase common stock are not expected to be eligible for trading on any market.

The price per share for the units and the exercise price for the warrants was determined based on negotiations with the purchasers and discussions with Roth Capital.

LEGAL MATTERS

The validity of the securities being offered hereby will be passed on by Stradling Yocca Carlson & Rauth, a Professional Corporation, Newport Beach, California. Lowenstein Sandler PC, New York, New York is counsel for the placement agent in connection with this offering.

EXPERTS

Haskell & White LLP, an independent registered public accounting firm has audited our consolidated balance sheets as of December 31, 2005 and December 31, 2004, and related consolidated statements of operations, stockholders equity (deficit) and cash flows for the year ended December 31, 2005 and the six months ended December 31, 2004, included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2005, and management s assessment of the effectiveness of our internal control over financial reporting as of December 31, 2005, as set forth in their report, which is incorporated by reference in this prospectus supplement, in the accompanying prospectus and elsewhere in the registration statement. Our financial statements and management s assessment are incorporated by reference in reliance on Haskell & White LLP s report, given on the authority of said firm as experts in accounting and auditing.

Ernst & Young LLP, an independent registered public accounting firm, has audited our consolidated financial statements for the years ended June 30, 2004 and June 30, 2003 included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2005, as set forth in their report, which is incorporated by reference in this prospectus supplement, in the accompanying prospectus and elsewhere in the registration statement. Our financial statements and schedule are incorporated by reference in reliance on Ernst & Young LLP s report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed a registration statement on Form S-3 with the SEC. This prospectus supplement and accompanying prospectus, which are a part of the registration statement, do not contain all of the information

Table of Contents

contained in the registration statement. Because some information is omitted, you should refer to the registration statement and its exhibits for additional information. For example, the descriptions in this prospectus supplement and accompanying prospectus regarding the contents of any of our contracts, agreements or other documents, are not necessarily complete and you should refer to the exhibits attached to the registration statement or incorporated by reference for copies of the actual contract, agreement or other document. You may obtain a copy of the registration statement from the SEC at the address listed below or from the SEC s web site.

We are subject to the information and periodic reporting requirements of the Exchange Act, and in accordance therewith file periodic reports, current reports, proxy statements and other information with the SEC. Such periodic reports, current reports, proxy statements, other information and a copy of the registration statement on Form S-3 may be inspected by anyone without charge and copies of these materials may be obtained upon the payment of the fees prescribed by the SEC, at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The registration statement on Form S-3 and the periodic reports, current reports, proxy statements and other information filed by us are also available through the Internet web site maintained by the SEC at the following address: http://www.sec.gov.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus the information we file with it. This means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is considered to be a part of this prospectus, and later information we file with the SEC will automatically update and supersede this information. The following documents filed with the SEC (in each case, Commission File No. 1-16467) are incorporated by reference in this prospectus:

our Annual Report on Form 10-K for the fiscal year ended December 31, 2005, filed with the SEC on March 16, 2006;

our Quarterly Report on Form 10-Q for the quarter ended March 31, 2006, filed with the SEC on May 9, 2006;

our Quarterly Report on Form 10-Q for the quarter ended June 30, 2006, filed with the SEC on August 8, 2006;

our Quarterly Report on Form 10-Q for the quarter ended September 30, 2006, filed with the SEC on November 8, 2006;

our Current Report on Form 8-K dated January 13, 2006, filed with the SEC on January 18, 2006;

our Current Report on Form 8-K dated January 30, 2006, filed with the SEC on February 3, 2006;

our Current Report on Form 8-K dated February 9, 2006, filed with the SEC on March 3, 2006;

our Current Report on Form 8-K dated March 21, 2006, filed with the SEC on March 27, 2006;

our Current Report on Form 8-K dated April 3, 2006, filed with the SEC on April 5, 2006;

our Current Report on Form 8-K dated May 10, 2006, filed with the SEC on May 11, 2006;

our Current Report on Form 8-K dated May 16, 2006, filed with the SEC on May 22, 2006;

our Current Report on Form 8-K dated December 11, 2006, filed with the SEC on December 14, 2006;

our definitive Proxy Statement dated April 7, 2006, filed with the SEC on April 7, 2006 in connection with our 2006 Annual Meeting of Stockholders;

Table of Contents

the description of our common stock contained in our Registration Statement on Form 8-A, filed with the SEC under Section 12(b) of the Exchange Act on May 2, 2001, including any amendment or report filed for the purpose of updating such description; and

the description of our preferred stock purchase rights contained in our Registration Statement on Form 8-A/A, filed with the SEC under Section 12(b) of the Exchange Act on February 15, 2002, including any amendment or report filed for the purpose of updating such description.

We are also incorporating by reference any future filings we make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act until this offering is completed, including those made between the date of filing of the initial registration statement and prior to effectiveness of the registration statement, except for information furnished under Item 2.02 or Item 7.01 of our Current Reports on Form 8-K which is not deemed to be filed and not incorporated by reference herein.

You may request a copy of these filings (other than an exhibit to a filing unless that exhibit is specifically incorporated by reference into that filing), at no cost, by writing or calling us at Cortex Pharmaceuticals, Inc., 15241 Barranca Parkway, Irvine, California 92618, telephone number (949) 727-3157, Attention: Chief Financial Officer.

Table of Contents

CORTEX PHARMACEUTICALS, INC.

$35,000,000

Common Stock

Preferred Stock

Warrants

104,000 Shares

Common Stock

We may, from time to time in one or more offerings, sell up to $35,000,000 in the aggregate, inclusive of any exercise price thereof, of:

shares of our common stock;