

ADVENTRX PHARMACEUTICALS INC

Form 424B5

November 03, 2006

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**Prospectus Supplement
(To Prospectus dated May 8, 2006)**

**Filed pursuant to Rule 424(b)(5)
Registration No. 333-133729**

**14,545,000 Shares
Common Stock
\$2.75 per Share**

We are offering 14,545,000 shares of our common stock.

Our common stock is listed on the American Stock Exchange under the symbol **ANX**. The last reported sale price of our common stock on the American Stock Exchange on November 2, 2006 was \$3.07 per share.

We have retained ThinkEquity Partners LLC and Fortis Securities LLC as our exclusive placement agents to use their best efforts to solicit offers to purchase our common stock in this offering. See **Plan of distribution** beginning on page S-22 of this prospectus supplement for more information regarding these arrangements.

Investing in our common stock involves a high degree of risk. See **Risk factors beginning on page S-3 of this prospectus supplement.**

	Per Share	Total
Public offering price	\$ 2.750	\$ 39,998,750
Placement agents' fees	\$ 0.165	\$ 2,399,925
Proceeds, before expenses, to ADVENTRX Pharmaceuticals, Inc.	\$ 2.585	\$ 37,598,825

The placement agents are not purchasing or selling any shares of our common stock pursuant to this prospectus supplement or the accompanying prospectus, nor are we requiring any minimum purchase or sale of any specific number of shares of common stock. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual public offering amount, placement agents' fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth above. We expect that delivery of the shares of common stock being offered pursuant to this prospectus supplement will be made to purchasers on or about November 8, 2006. Certain purchaser funds will be deposited into an escrow account and held until jointly released by us and the placement agents on the date the shares are to be delivered to the purchasers. All funds received will be held in a non-interest bearing account.

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.

ThinkEquity Partners LLC
November 2, 2006

Fortis Securities LLC

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CoFactor[®], Selone[™] and Thiovir[™] are trademarks of ADVENTRX Pharmaceuticals, Inc. This prospectus supplement, the accompanying prospectus and documents incorporated by reference herein may contain product names, trade names and trademarks of other entities.

Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus supplement and the accompanying prospectus to the Company, ADVENTRX, we, us, our, or similar references mean ADVENTRX Pharmaceuticals, Inc., a Delaware corporation.

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About this prospectus

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of our common stock and also adds to and updates information contained in or incorporated by reference into the accompanying prospectus. The second part is the accompanying prospectus, which gives more information about us and the shares of common stock we may offer from time to time under our shelf registration statement. To the extent there is a conflict between the information contained, or referred to, in this prospectus supplement, on the one hand, and the information contained, or referred to, in the accompanying prospectus or any document incorporated by reference therein, on the other hand, the information in this prospectus supplement shall control.

We have not authorized any broker, dealer, salesperson or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus supplement or the accompanying prospectus. This prospectus supplement and the accompanying prospectus do not constitute an offer to sell or the solicitation of an offer to buy common stock, nor do this prospectus supplement and the accompanying prospectus constitute an offer to sell or the solicitation of an offer to buy common stock in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus supplement and the accompanying prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus supplement and any accompanying prospectus is delivered or common stock is sold on a later date.

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The offering

Common stock offered by us 14,545,000 shares

Common stock to be outstanding after this offering 88,616,143 shares

Use of proceeds We intend to use the proceeds of this offering primarily to fund our research and development programs and their related costs, including conducting clinical trials of our product candidates, as well as possibly commercial launch preparation. See Use of proceeds on page S-18.

American Stock Exchange symbol ANX

Our principal executive offices are located at 6725 Mesa Ridge Road, Suite 100, San Diego, California 92121 and our telephone number is (858) 552-0866.

Except as otherwise indicated herein, the information above and elsewhere in this prospectus supplement regarding outstanding shares of our common stock (including under Capitalization and Dilution) is based on 74,071,143 shares of common stock outstanding as of September 30, 2006 and excludes the following shares of common stock:

3,550,500 shares of common stock issuable upon the exercise of stock options outstanding as of September 30, 2006, with a weighted-average exercise price of \$2.39 per share;

14,880,495 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2006, with a weighted-average exercise price of \$2.09 per share;

4,796,768 shares of common stock reserved for future awards under our 2005 Equity Incentive Plan and 2005 Employee Stock Purchase Plan as of September 30, 2006; and

411,631 shares of common stock issued upon the exercise of outstanding warrants since September 30, 2006.

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Risk factors

An investment in our common stock involves significant risk. You should consider carefully the risks and uncertainties described below together with all other information in our filings with the Securities and Exchange Commission, or the SEC, that are contained or incorporated by reference in this prospectus supplement and the accompanying prospectus before you decide to invest in our common stock. The risk factors set forth below, in addition to all such other information that is contained or incorporated by reference in this prospectus supplement and the accompanying prospectus supersede the risk factors contained in our prior filings with the SEC. Prospective investors should review all of these risk factors before making an investment decision. If any of these risks or uncertainties actually occurs, our business, financial condition or results of operations could be materially adversely affected. Additional risks and uncertainties of which we are unaware or that we currently believe are immaterial could also materially adversely affect our business, financial condition or results of operations. In any case, the trading price of our common stock could decline, and you could lose all or part of your investment. See also Special note regarding forward-looking statements.

Risks Related to the Company

We have a substantial accumulated deficit and limited working capital.

We had an accumulated deficit of \$82.9 million as of September 30, 2006. We have had losses from operations and negative cash flow from operations in each year since our inception. We had losses from operations of \$2.3 million, \$6.7 million and \$13.2 million for the years ended December 31, 2003, 2004 and 2005, respectively. We had a loss from operations of \$22.9 million for the nine months ended September 30, 2006 including a non-recurring non-cash charge of \$10.4 million incurred in the second quarter in connection with our acquisition of SD Pharmaceuticals, which charge was characterized as in-process research and development. We used cash from operations of \$2.2 million, \$5.2 million, \$11.6 million and \$12.2 million during these same periods.

We expect to continue to incur significant operating and capital expenditures. Since we presently have no source of revenues and are committed to continuing our research and development programs, significant expenditures and losses will likely continue until development of our product candidates is completed and such product candidates have been clinically tested, approved by the United States of America Food and Drug Administration, or FDA, or other regulatory agencies and successfully marketed, or we are able to successfully partner one or more of our product candidates. In addition, we fund our operations primarily through the sale of equity securities, and have had limited working capital for our research and development programs and other activities.

We have never generated revenues or profits and we may not be able to generate revenues sufficient to achieve profitability.

We are a development stage company with no revenues, and our operations to date have generated substantial and increasing needs for cash. We have devoted our resources to developing a new generation of therapeutic products, but such products cannot be marketed until clinical testing is completed and governmental approvals have been obtained. Accordingly, there is no current source of revenues, much less profits, to sustain our present activities, and no revenues will likely be available until, and unless, the new products are clinically tested, approved by the FDA or other regulatory agencies and successfully marketed, either by us or a marketing partner, an outcome which we are not able to guarantee.

We will require substantial additional funding and it is uncertain that we will have access to future capital when needed, if at all, or on terms that are favorable to us or our stockholders.

We are a development stage company with no revenues, and our operations to date have generated substantial and increasing needs for cash. We do not expect to generate positive cash flow from operations for

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at least the next several years. As a result, substantial additional financing for our research and development programs will be required. We cannot be certain that we will be able to obtain such financing on favorable or satisfactory terms, if at all, or that it will be sufficient to meet our cash requirements. Any additional equity financing could result in substantial dilution to stockholders, and debt financing, if available, would likely involve covenants that restrict our operations, and may, among other things, preclude us from making distributions to stockholders and taking other actions beneficial to stockholders. In connection with certain past warrant issuances by us, we have provided the warrant holders with anti-dilution protections that, among other things, protect them against subsequent issuances by us of common stock at a price per share that is less than the exercise price of the warrants by lowering the exercise price of the warrants. In July 2005, the exercise price of these warrants was lowered as a result of our issuance of common stock to certain new investors. You could experience additional significant dilution in the future as a result of these provisions if we are required to issue common stock or other equity securities below the exercise prices contained in the warrants or other provisions we provide in the future to our investors.

Our ability to timely raise capital would most likely be impaired if we became ineligible to file shelf registration statements on Form S-3. We will become ineligible if we fail to comply with all applicable requirements of Form S-3, including filing in a timely manner all reports required to be filed by us. Though we are a small company with limited resources, we are subject to the wide-ranging, complicated laws and regulations applicable to public companies, including the provisions of the Sarbanes-Oxley Act of 2002, which may impair our ability to timely and completely comply with the requirements of Form S-3.

If adequate funds are not available, we may be required to delay or reduce the scope of our research and development programs or attempt to continue development by entering into arrangements with collaborative partners or others that, if available at all, may require us to relinquish some or all of our rights to our product candidates or the financial benefits thereof. Our inability to adequately and timely fund our capital requirements would have a material and adverse effect on us. We expect that the proceeds of this offering will last for at least the next 24 months, although we cannot assure you that we will not require additional funds earlier.

Further testing of our product candidates will be required and there is no assurance of FDA approval.

Human pharmaceutical products are subject to rigorous preclinical testing and clinical trials and other approval procedures mandated by the FDA and foreign regulatory authorities. Various federal and foreign statutes and regulations also govern or influence the manufacturing, safety, labeling, storage, record keeping and marketing of pharmaceutical products. The process of obtaining these approvals and the subsequent compliance with appropriate U.S. and foreign statutes and regulations are time-consuming and require the expenditure of substantial resources. In addition, these requirements and processes vary widely from country to country.

The effect of government regulation and the need for FDA approval will delay commercialization of our product candidates for a considerable period of time, impose costly procedures upon our activities, and provide an advantage to larger companies that compete with us. There can be no assurance that the FDA or other regulatory approval for any products developed by us will be granted on a timely basis, or at all. Any such delay in obtaining, or failure to obtain, such approvals would materially and adversely affect the marketing of any contemplated products and the ability to earn product revenue. Further, regulation of manufacturing facilities by state, local, and other authorities is subject to change. Any additional regulation could result in limitations or restrictions on our ability to utilize any of our technologies, thereby adversely affecting our operations.

Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval or commercialization.

Undesirable side effects caused by our product candidates could interrupt, delay or halt clinical trials and could result in the denial of regulatory approval by the FDA or other regulatory authorities for any or all

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targeted indications, and in turn prevent us from commercializing our product candidates and generating revenues from their sale.

In addition, if any of our product candidates receive marketing approval and we or others later identify undesirable side effects caused by the product:

regulatory authorities may require the addition of labeling statements, such as a black box warning or a contraindication;

regulatory authorities may withdraw their approval of the product;

we may be required to change the way the product is administered, conduct additional clinical trials or change the labeling of the product; and

our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product or could substantially increase the costs and expenses of commercializing the product candidate, which in turn could delay or prevent us from generating significant revenues from its sale.

Even if our product candidates receive regulatory approval, they may still face future development and regulatory difficulties.

Even if U.S. regulatory approval is obtained, the FDA may still impose significant restrictions on a product's indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies. Our product candidates will also be subject to ongoing FDA requirements related to the labeling, packaging, storage, advertising, promotion, record-keeping and submission of safety and other post-market information on the product. In addition, approved products, manufacturers and manufacturers' facilities are subject to continual review and periodic inspections. If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may:

issue warning letters or untitled letters;

impose civil or criminal penalties;

suspend regulatory approval;

suspend any ongoing clinical trials;

refuse to approve pending applications or supplements to approved applications filed by us;

impose restrictions on operations, including costly new manufacturing requirements; or

seize or detain products or require a product recall.

Even if our product candidates receive regulatory approval in the United States, we may never receive approval or commercialize our products outside of the United States.

In order to market any products outside of the United States of America, or the U.S., we must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries might differ from that required to obtain FDA approval. The regulatory approval process in other countries may include all of the risks detailed above regarding FDA approval in the U.S. as well as other risks. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. Failure to obtain regulatory

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approval in other countries or any delay or setback in obtaining such approval could have the same adverse effects detailed above regarding FDA approval in the U.S. As described above, such effects include the risks that our product candidates may not be approved for all indications requested, which could limit the uses of our product candidates and have an adverse effect on potential royalties and product sales, and that such approval may be subject to limitations on the indicated uses for which the product may be marketed or require costly, post-marketing follow-up studies.

Positive results in preclinical testing and clinical trials do not ensure that future clinical trials will be successful or that product candidates will receive all necessary regulatory approvals for the marketing, distribution or sale of such product candidates.

Success in preclinical testing and clinical trials does not ensure that large-scale clinical trials will be successful. Clinical results are frequently susceptible to varying interpretations that may delay, limit or prevent regulatory approvals. The length of time necessary to complete clinical trials and to submit an application for marketing approval for a final decision by a regulatory authority varies significantly and may be difficult to predict. In addition, delays or rejections may be encountered based upon changes in FDA policy for drug approval during the period of product development and FDA regulatory review of each submitted new drug application, or NDA. There is a significant risk that any of our product candidates could fail to show satisfactory results in continued trials, and would not justify further development. A failure to obtain requisite regulatory approvals or to obtain approvals of the scope requested will delay or preclude us from marketing our products or limit the commercial use of the products, and would have a material adverse effect on our business, financial condition and results of operations.

We will face intense competition from other companies in the pharmaceutical industry.

We are engaged in a segment of the pharmaceutical industry that is highly competitive and rapidly changing. If successfully developed and approved, all of our product candidates will likely compete with several existing and new products and therapies and our competitors may succeed in commercializing products more rapidly or effectively than us, which would have a material and adverse effect on our results of operations and financial condition. ANX-510, or CoFactor, our leading product candidate, would likely compete against a well-established generic product, leucovorin, as well as isovorin, which is marketed primarily in Japan. In addition, there are numerous companies with a focus in oncology and/or anti-viral therapeutics that are pursuing the development of pharmaceuticals that target the same diseases as are targeted by the products being developed by us. We anticipate that we will face intense and increasing competition in the future as new products enter the market and advanced technologies become available. There is no assurance that existing products or new products developed by competitors will not be more effective, or more effectively marketed and sold, than those we may market and sell. Competitive products may render our products and product candidates obsolete or noncompetitive.

Companies likely to have products that will compete with CoFactor, such as Wyeth and Roche, and our other product candidates have significantly greater financial, technical and human resources and are better equipped to develop, manufacture, market and distribute products. Many of these competitors have extensive experience in preclinical testing and clinical trials, obtaining FDA and other regulatory approvals and manufacturing and marketing pharmaceutical products and have products that have been approved or are in late-stage development and operate large, well-funded research and development programs. Other companies, such as Merck Eprova, with which we had a manufacturing relationship, may be developing products which compete with CoFactor.

Smaller companies may also prove to be significant competitors, particularly through collaborative arrangements with large pharmaceutical and biotechnology companies. Furthermore, academic institutions, government agencies and other public and private research organizations are becoming increasingly aware of the commercial value of their inventions and are actively seeking to commercialize the technology they have developed. Companies such as Gilead

and GlaxoSmithKline all have drugs in various stages of development that could become competitors of our other product candidates.

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There is no assurance that our products will achieve broad market acceptance and, if they fail to do so, the revenues we generate from their sales will be limited.

Our success will depend in substantial part on the extent to which our products, if eventually approved for commercial distribution, are accepted by the medical community and reimbursement of them by third-party payors, including government payors. The degree of market acceptance will depend upon a number of factors including, among other things:

the receipt and scope of regulatory approvals (including the existence of limitations or warnings in a product's FDA-approved labeling);

the establishment and demonstration in the medical community of the safety and efficacy of our products and our ability to provide acceptable evidence of safety and efficacy;

the product's potential advantages over existing treatment methods (including relative convenience and ease of administration, prevalence and severity of any adverse side effects);

pricing and cost-effectiveness, and reimbursement policies of government and third party payors; and

the prevalence of off-label substitution of chemically equivalent products.

We cannot predict or guarantee that physicians, patients, healthcare insurers or maintenance organizations, or the medical community in general, will accept or utilize any of our products. If our products are approved but do not achieve an adequate level of acceptance by these parties, we may not generate sufficient revenue from these products to become or remain profitable. In addition, our efforts to educate the medical community and third-party payors regarding the benefits of our products may require significant resources and may never be successful.

The unavailability of health care reimbursement for any of our products will likely adversely impact our ability to effectively market such products and whether health care reimbursement will be available for any of our products is uncertain.

Our ability to commercialize our products successfully will depend in part on the extent to which reimbursement for the costs of such products and related treatments will be available from government health administration authorities, private health insurers and other third-party payors. Significant uncertainty exists as to the reimbursement status of newly approved medical products. We cannot guarantee that adequate third-party insurance coverage will be available for us to establish and maintain price levels we believe are fair for our products, which may affect our ability to generate revenues or achieve or maintain profitability. If we are successful in getting FDA approval for CoFactor, we will be competing against a generic drug, leucovorin, which has a lower cost and a long, established history of reimbursement. Receiving sufficient reimbursement for purchase costs of CoFactor will be necessary to make it cost effective and competitive versus the established drug, leucovorin, and other alternative products. Government, private health insurers, and other third-party payors are increasingly attempting to contain health care costs by limiting both coverage and the level of reimbursement, particularly for new therapeutic products. Accordingly, even if coverage and reimbursement are provided, market acceptance of our products would be adversely affected if the amount of coverage and/or reimbursement available for the use of our products proved to be unprofitable for health care providers.

Uncertainties related to health care reform measures may affect our success.

There have been federal and state proposals to subject the pricing of health care goods and services, including prescription drugs, to government control and to make other changes to the U.S. health care system. For example, the Medicare Prescription Drug Improvement Act of 2003 provides a new Medicare prescription drug benefit, which became effective January 1, 2006, and mandates other reforms. It is uncertain if future legislative proposals would be adopted that might affect the product candidates in our programs or what actions federal, state, or private payors for health care treatment and services may take in response to any such

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health care reform proposals or legislation. Any such health care reforms could have a material adverse effect on the marketability of any products for which we ultimately require or receive FDA approval.

We may not achieve our projected development goals in the time frames we announce and expect.

We set goals for and make public statements regarding timing of the accomplishment of objectives material to our success, such as the commencement and completion of clinical trials. The actual timing of these events can vary dramatically due to factors such as delays or failures in our clinical trials, and the uncertainties inherent in the regulatory approval process. There can be no assurance that our clinical trials will commence or be completed, that we will make regulatory submissions or receive regulatory approvals as planned or that we will be able to adhere to our current schedule for the launch of any of our products. If we fail to achieve one or more of these milestones as planned, the market price of our common stock could decline.

The commencement and completion of clinical trials can be delayed for a variety of reasons, including delays related to:

obtaining regulatory approval to commence a clinical trial;

identifying appropriate trial sites and reaching agreement on acceptable terms with prospective contract research organizations, or CROs, trial sites and clinical investigators, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs, trial sites and clinical investigators;

manufacturing sufficient quantities of a product candidate;

obtaining institutional review board approval to conduct a clinical trial at a prospective site;

recruiting and enrolling patients to participate in clinical trials for a variety of reasons, including competition from other clinical trial programs for the same indication as our product candidates; and

retaining patients who have initiated a clinical trial but may be prone to withdraw due to side effects from the therapy, lack of efficacy or personal issues, or who are lost to further follow-up.

In addition, a clinical trial may be suspended or terminated by us, the FDA or other regulatory authorities due to a number of factors, including:

failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;

inspection of the clinical trial operations or trial sites by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;

unforeseen safety issues; or

lack of adequate funding to continue the clinical trial.

Our success will depend on licenses and proprietary rights we receive from other parties, and on any patents we or they may obtain.

Our success will depend in part on our ability and, in certain cases, our licensors' ability to:

obtain and maintain patent protection with respect to our product candidates;

our ability to maintain our licenses;

defend patents and licenses once obtained;

maintain trade secrets;

operate without infringing upon the patents and proprietary rights of others; and

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obtain appropriate licenses to patents or proprietary rights held by third parties if infringement would otherwise occur, both in the U.S. and in foreign countries.

The patent and intellectual property positions of biopharmaceutical companies, including ours, are uncertain and involve complex legal and factual questions. There is no guarantee that we or our licensors have or will develop or obtain the rights to products or processes that are patentable, that patents will issue from any pending applications or that claims allowed will be sufficient to protect the technology we develop or have developed or that is licensed to us. In addition, we cannot be certain that any patents issued or licensed to us will not be challenged, invalidated, infringed or circumvented, including by our competitors, or that the rights granted thereunder will provide competitive advantages to us. Patent applications in the U.S. are confidential for a period of time until they are published, and publication of discoveries in scientific or patent literature typically lags actual discoveries by several months. As a result, we cannot be certain that the inventors of any patent or patent application owned or licensed to us were the first to conceive of the inventions covered by such patents and patent applications or that such inventors were the first to file patent applications for such inventions.

We may also rely on unpatented trade secrets and know-how to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with employees, consultants and others. We also have invention or patent assignment agreements with our employees and certain consultants. There can be no assurance, however, that binding agreements will not be breached, that we will have adequate remedies for any breach, or that trade secrets will not otherwise become known or be independently discovered by competitors. In addition, there can be no assurance that inventions relevant to us will not be developed by a person not bound by an invention assignment agreement with us.

Our license agreements can be terminated in the event of our breach.

The license agreement pursuant to which we license our lead product candidate, CoFactor, which is also the agreement pursuant to which we license ANX-540, or Selone, and the license agreement pursuant to which we license ANX-201, or Thiovir, permit the licensor, the University of Southern California, to terminate the agreement under certain circumstances, such as our failure to use our reasonable best efforts to commercialize the licensed technology or the occurrence of any other uncured material breach by us. These license agreements also provide that the licensor is primarily responsible for obtaining patent protection for the technology licensed, and we are required to reimburse the licensor for the costs it incurs in performing these activities. These license agreements also require the payment of specified royalties. Any inability or failure to observe these terms or pay these costs or royalties could result in the termination of the applicable license agreement in certain cases. The termination of any license agreement could have a material and adverse effect on us.

The United States government and the University of Southern California retain certain rights in the technologies we have licensed from the University of Southern California.

The technologies developed by the University of Southern California were developed in part through funding provided by the U.S. government. Therefore, in addition to the University of Southern California's termination rights described above, our licenses are subject to a non-exclusive, non-transferable, royalty-free right of the U.S. government and the University of Southern California to practice the licensed technologies for research purposes and, in the case of the U.S. government, other governmental purposes on behalf of the U.S. and on behalf of any foreign government or international organization pursuant to any existing or future treaty or agreement with the U.S., but only to the extent the government funded the research. The government also reserves the right to require us to

grant sublicenses to third parties when necessary to fulfill public health and safety needs or if we do not reasonably satisfy government requirements for public use of the technology. In addition, the University of Southern California has the right to use all improvements to the licensed technology for research and educational purposes. Although we are currently the only parties licensed to actively develop the technology, we cannot assure you that the government will not in the future require us to sublicense the technology. Any action by the government to force us to issue such sublicenses or development

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activities pursuant to its reserved rights in the technology would erode our ability to exclusively develop our products based on the technology and could materially harm our financial condition and operating results.

Licenses of technology developed through funding provided by the U.S. government, including the University of Southern California licenses, require that licensees in this case, us and our affiliates and sub-licensees agree that products covered by the licenses will be manufactured substantially in the U.S.. We cannot assure you that we will be able to contract for manufacturing facilities in the U.S. on favorable terms or obtain waivers of such requirement, or that such requirement will not impede our ability to license our products to others. If we are unable to contract for manufacturing facilities in the U.S. or obtain an appropriate waiver, we risk losing our rights under the University of Southern California licenses, which could materially harm our financial condition and operating results.

Protecting our proprietary rights is difficult and costly. If we are sued for infringing the proprietary rights of third parties, it will be costly and time consuming, and an unfavorable outcome would have an adverse effect on our business.

Our commercial success depends on our ability to develop, manufacture, market and sell our products without infringing the proprietary rights of third parties. The patent positions of pharmaceutical and biotechnology companies can be highly uncertain and involve complex legal and factual questions. Because patent applications take time to publish and issue, there may be currently pending applications, unknown to us, which may later result in issued patents that our products or technologies infringe. We cannot predict the breadth of claims allowed in competitors or other companies patents or whether we may now or in the future infringe these claims. Although we have not been notified of any patent infringement, nor notified others of patent infringement, such patent disputes are common and could preclude the commercialization of our products. Patent litigation is costly in its own right and could subject us to significant liabilities to third parties. In addition, an adverse decision could force us to either obtain third-party licenses at substantial cost, if available at all, or cease using the technology or product in dispute. During litigation, the patent holder could obtain a preliminary injunction or other equitable remedy that could prohibit us from making, using or selling our products.

Litigation, which could result in substantial cost, may also be necessary to enforce any patents to which we have rights, or to determine the scope, validity and unenforceability of other parties proprietary rights, which may affect our rights. There can be no assurance that our owned or licensed patents would be held valid by a court or administrative body or that an alleged infringer would be found to be infringing. The uncertainty resulting from the mere institution and continuation of any technology-related litigation or interference proceeding could have a material and adverse effect on us.

If a trademark infringement action is commenced against us regarding the use of our corporate name, we could be required to pay monetary damages and/or change our name.

In March of 2005, we received correspondence from Aventis Pharmaceuticals, Inc. and its parent, Sanofi-Aventis (collectively, Sanofi) in which Sanofi asserted that our use of the word ADVENTRX infringes upon their trademark AVENTIS and demanded that we discontinue use of the word ADVENTRX. In May of 2005, we responded with a letter in which we outlined reasons why we do not believe that our name, ADVENTRX, infringes on Sanofi's trademark, AVENTIS. Since our response, counsel for both parties have exchanged further communications and Sanofi has made further inquiries regarding our use of the ADVENTRX mark. In June 2006, we received a letter from counsel to Sanofi that, based on the fact that we do not own any registrations or applications for the ADVENTRX name and that Sanofi is not aware of any instances of actual confusion in the marketplace, Sanofi has decided not to take any further action. Sanofi indicated that, if we attempt to secure trademark/service mark registration protection for the ADVENTRX name or should instances of actual confusion come to Sanofi's attention, it will reevaluate its

position. Accordingly, Sanofi may take legal action in the future, including proceeding with an action for trademark infringement. Depending upon the circumstances, an adverse result in a trademark infringement action could require the payment of monetary damages by us and/or changing our corporate name.

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We may be unable to retain skilled personnel and maintain key relationships.

The success of our business depends, in part, on our ability to attract and retain highly qualified management, scientific and other personnel, and on our ability to develop and maintain important relationships with leading research institutions and consultants and advisors. Competition for these types of personnel and relationships is intense from numerous pharmaceutical and biotechnology companies, universities and other research institutions, particularly in the San Diego, California area. We are currently dependent upon our scientific staff, which has a deep background in our product candidates and our research and development programs. Recruiting and retaining senior employees with relevant drug development experience in oncology and anti-viral therapeutics is costly and time-consuming. There can be no assurance that we will be able to attract and retain such individuals on an uninterrupted basis and on commercially acceptable terms, and the failure to do so could have a material adverse effect on us by significantly delaying one or more of our research and development programs. The loss of any of our senior executive officers, including our chief executive officer, president/chief medical officer, chief scientific officer or our vice president, medical affairs, in particular, could have a material and adverse effect on the company and the market for our common stock, particularly if such loss was abrupt or unexpected. All of our employees are employed on an at-will basis under offer letters. We do not have non-competition agreements with any of our employees.

Furthermore, we are currently seeking a permanent chief financial officer. In addition to the fundamental role this position plays in ensuring the accuracy and timeliness of a company's financial reporting, and thereby its eligibility to file shelf registration statements on Form S-3, this position is often times critical to a company's ability to raise capital, both of which are of particular importance to us. Identifying and retaining a chief financial officer may be difficult and take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to meet our needs. Competition to hire from this limited pool is intense and, if we are unable to hire, train, retain and motivate an individual as our chief financial officer, it is uncertain what impact this may have on the accuracy and timeliness of our financial reporting, our ability to timely and completely comply with the requirements of Form S-3 or our ability to raise capital.

We currently have no sales capability, and limited marketing capability.

We currently do not have sales personnel. We have limited marketing and business development personnel. To commercialize our products, we will have to acquire or develop sales, marketing and distribution capabilities, or rely on marketing partners or other arrangements with third parties for the marketing, distribution and sale of products. There is no guarantee that we will be able to establish marketing, distribution or sales capabilities or make arrangements with third parties to perform those activities on terms satisfactory to us, or that any internal capabilities or third party arrangements will be cost-effective. The acquisition or development of a sales and distribution infrastructure will require substantial resources, which may divert the attention of our management and key personnel and negatively impact our product development efforts.

In addition, any third parties with which we may establish marketing, distribution or sales arrangements may have significant control over important aspects of the commercialization of our products, including market identification, marketing methods, pricing, composition of sales force and promotional activities. There can be no assurance that we will be able to control the amount and timing of resources that any third party may devote to our products or prevent any third party from pursuing alternative technologies or products that could result in the development of products that compete with, or the withdrawal of support for, our products.

We do not have manufacturing capabilities and may not be able to contract for such services from third parties on commercially acceptable terms, or at all.

We do not have any manufacturing capability. We meet our manufacturing requirements by establishing relationships with third-party manufacturers for the manufacture of clinical trial material and the commercial production of our products, though we do not have any long-term agreements or commitments for the supply of these materials and products. We cannot assure you that we will be able to establish relationships with

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third-party manufacturers on commercially acceptable terms, or at all, or that third-party manufacturers will be able to manufacture our products on a cost-effective basis under good manufacturing practices mandated by the FDA or other regulatory bodies in quantities sufficient to meet our clinical and commercial needs.

Our dependence upon third parties for the manufacture of products may adversely affect our future costs and our ability to develop and commercialize our products on a timely and competitive basis. The manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in production, particularly in scaling up initial production, as well as complying with strictly enforced federal, state and foreign regulations. We cannot assure you that manufacturing or quality control problems will not arise in connection with the manufacture of our products or that third-party manufacturers will be able to maintain the necessary governmental licenses and approvals to continue manufacturing such products. Any delay or interruption in the supply of clinical supplies could delay the completion of our clinical trials, increase the costs associated with maintaining our research and development programs and, depending upon the period of delay, require us to commence new trials at significant additional expense or terminate the trials completely. Any failure to establish relationships with third parties for our manufacturing requirements on commercially acceptable terms would have a material and adverse effect on us.

We are dependent in part on third parties for clinical trials and research facilities.

We do not possess research and development facilities necessary to conduct all of the activities associated with our research and development programs. We engage consultants, advisors and CROs to design and conduct clinical trials in connection with the development of our product candidates. As a result, these important aspects of our product candidates' development are outside our direct control. In addition, there can be no assurance that such third parties will perform all of their obligations under arrangements with us or will perform those obligations satisfactorily.

For instance, for our CoFactor phase III clinical trial, we rely on Synteract, Inc., for data management, biostatistics and pharmacovigilance, and Pharmatech, Inc., for site management and enrollment support, both of which are CROs. Individuals working at these companies are not our employees, and we cannot control the amount or timing of resources that they devote to our programs. If these CROs fail to devote sufficient time and resources to our clinical trials, or if their performance is substandard, it will delay the approval of our FDA applications and our introduction of our products. Failure of these CROs to meet their obligations could adversely affect clinical development of our product candidates. Moreover, these CROs may have relationships with other commercial entities, some of which may compete with us. If they assist our competitors at our expense, it could harm our competitive position.

We face potential product liability exposure and, if successful claims are brought against us, we may incur substantial liability for a product or product candidate and may have to limit its commercialization. In the future, we anticipate that we will need to obtain additional or increased product liability insurance coverage and it is uncertain that such increased or additional insurance coverage can be obtained on commercially reasonable terms.

Our business (in particular, the use of our product candidates in clinical trials and the sale of our products for which we obtain marketing approval) will expose us to product liability risks. We have obtained limited product liability insurance for our clinical trials, and intend to expand our insurance coverage if and when we begin marketing commercial products. However, there can be no assurance that we will be able to obtain product liability insurance on commercially acceptable terms or that we will be able to maintain such insurance at a reasonable cost or in sufficient amounts to protect us against potential losses. A successful product liability claim or series of claims brought against us could have a material and adverse effect on us.

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and, if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business. In addition, regardless of merit or eventual outcome, liability claims may result in:

decreased demand for our products or product candidates;

impairment of our business reputation;

withdrawal of clinical trial participants;

costs of related litigation;

substantial monetary awards to patients or other claimants;

loss of revenues; and

the inability to commercialize our products and product candidates.

If we cannot satisfy AMEX's listing requirements, it may delist our common stock and we may not have an active public market for our common stock. The absence of an active trading market would likely make our common stock an illiquid investment.

Our common stock is quoted on the American Stock Exchange, or AMEX. To continue to be listed, we are required to maintain stockholders' equity of \$6,000,000, among other requirements. We did not satisfy that requirement as of September 30, 2006. It is our understanding, however, that AMEX will not normally consider suspending dealings in, or removing from the listing of, the securities of a company if the company has a total value of market capitalization of at least \$50,000,000 and has at least 1,100,000 shares publicly held, with a market value of publicly held shares of at least \$15,000,000 and 400 round lot stockholders. We currently meet these criteria. If AMEX were to delist our common stock or suspend trading in our common stock, our common stock would likely trade in the over-the-counter market in the so-called "pink sheets" or, if available, the OTC Bulletin Board Service. As a result, an investor would likely find it significantly more difficult to dispose of, or to obtain accurate quotations as to the value of, our common stock.

If our common stock is delisted, it may become subject to the SEC's penny stock rules and more difficult to sell.

SEC rules require brokers to provide information to purchasers of securities traded at less than \$5.00 and not traded on a national securities exchange or quoted on the Nasdaq Stock Market. If our common stock becomes a penny stock that is not exempt from these SEC rules, these disclosure requirements may have the effect of reducing trading activity in our common stock and making it more difficult for investors to sell. The rules require a broker-dealer to deliver a standardized risk disclosure document prepared by the SEC that provides information about penny stocks and the nature and level of risks in the penny market. The broker must also give bid and offer quotations and broker and salesperson compensation information to the customer orally or in writing before or with the confirmation. The SEC rules also require a broker to make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction before a transaction in a penny stock.

Changes in laws and regulations that affect the governance of public companies have increased our operating expenses and may continue to do so.

Recently enacted changes in the laws and regulations affecting public companies, including the provisions of the Sarbanes-Oxley Act of 2002 and AMEX listing requirements, have imposed new duties on us and on our executives, directors, attorneys and independent accountants. In order to comply with these new rules, we have hired additional personnel (and may hire additional personnel) and engaged outside legal, accounting and advisory services, which have increased and are likely to continue increasing our operating expenses. In particular, we expect to incur additional administrative expenses as we continue to comply with the requirements of Section 404 of the Sarbanes-Oxley Act, which requires management to extensively evaluate and report on, and our independent registered public accounting firm to attest to, our internal controls. For

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example, we have incurred significant expenses, and expect to incur additional expenses, in connection with the evaluation, implementation, documentation and testing of our existing and newly implemented control systems. Management time associated with these compliance efforts necessarily reduces time available for other operating activities, which could adversely affect operating results. If we are unable to achieve full and timely compliance with these regulatory requirements, we could be required to incur additional costs and expend additional money and management time on additional remedial efforts, all of which could adversely affect our results of operations.

Failure to implement effective control systems, or failure to complete our assessment of the effectiveness of our internal control over financial reporting, may subject us to regulatory sanctions and could result in a loss of public confidence.

We are required to include in our annual report our assessment of the effectiveness of our internal control over financial reporting. Furthermore, our independent registered public accounting firm is required to issue an opinion on whether our assessment of the effectiveness of our internal control over financial reporting is fairly stated in all material respects and separately report on whether it believes we maintained, in all material respects, effective internal control over financial reporting on an annual basis.

Our management concluded that our internal controls over financial reporting were effective as of December 31, 2005, and our independent public accountants were able to attest to that assessment. However, in connection with the 2005 year-end audit, our independent public accountants identified certain internal control weaknesses that, although not rising to the level of material weaknesses, were significant deficiencies. Additionally, in prior years (most recently 2004), certain material weaknesses in our internal controls over financial reporting were identified in connection with our annual financial audits. While we believe we remediated the material weaknesses from prior years, including through adopting a new financial accounting system and adding a financial controller to our accounting staff, any failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our operating results or cause us to fail to meet our reporting obligations. Inferior internal controls could also cause investors to lose confidence. In addition, on September 7, 2006, we ended our employment relationship with Carrie Carlander, our chief financial officer, treasurer, vice president, finance and secretary and appointed our then-controller as acting chief financial officer and treasurer. We are uncertain what, if any, impact these events may have on the accuracy and timeliness of our financial reporting.

If we fail to remedy any material weaknesses which are uncovered in the future, fail to timely complete our assessment, or if our independent registered public accounting firm cannot timely attest to our assessment in the future, we could be subject to regulatory sanctions and a loss of public confidence in our internal controls. In addition, any failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our operating results or cause us to fail to timely meet our regulatory reporting obligations.

We have engaged in and may continue to engage in opportunistic acquisitions of companies and intellectual property, which could negatively affect our business and earnings.

In April 2006, we acquired SD Pharmaceuticals, Inc., including its portfolio of product candidates. We intend to continue to be opportunistic in acquiring or in-licensing products, businesses or technologies that we believe are a strategic fit with our business or complement our existing product candidates. There are risks associated with such activities. These risks include, among others, incorrectly assessing the asset quality of a prospective merger partner, encountering greater than anticipated costs in integrating acquired businesses, facing resistance from customers or employees, and being unable to profitably deploy assets acquired in the transaction. Additional country- and region-specific risks are associated with transactions outside the U.S. To the extent we issue securities in connection with additional transactions, these transactions and related issuances may have a dilutive effect on earnings per share

and our ownership.

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Our earnings, financial condition, and prospects after a merger or acquisition depend in part on our ability to successfully integrate the operations of the acquired or in-licensed products, business or technologies. We may be unable to integrate operations successfully or to achieve expected cost savings. Any cost savings which are realized may be offset by losses in revenues or other charges to earnings.

Risks Related to our Common Stock and the Offering

The price of our common stock has been and is likely to continue to be volatile, and your investment could suffer a decline in value.

Market prices for our common stock and the securities of other biotechnology and biopharmaceutical companies have been highly volatile and may continue to be highly volatile in the future. Our common stock has been, and is likely to be, highly volatile and could be subject to wide fluctuations in price in response to various factors, many of which are beyond our control, including:

the timing and the results from our clinical trial programs;

FDA or international regulatory actions;

failure of any of our product candidates, if approved, to achieve commercial success;

announcements of clinical trial results or new product introductions by our competitors;

market conditions in the pharmaceutical, biopharmaceutical and biotechnology sectors;

developments concerning our or our competitors' intellectual property rights;

litigation or public concern about the safety of our product candidates;

deviations in our business and the trading price of our common stock from the estimates of securities analysts;

additions or departures of key personnel; and

third party reimbursement policies.

As a result, you could lose all or part of your investment. The stock market in general experiences extreme price and volume fluctuations that are often unrelated and disproportionate to the operating performance of companies. Class action litigation has often been instituted against companies whose securities have experienced periods of volatility in market price. Any such litigation brought against us could result in substantial costs and a diversion of management's attention and resources, which could hurt our business, operating results and financial condition.

Investors in this offering will experience immediate and substantial dilution.

The public offering price of our common stock is substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will incur immediate and substantial dilution in the pro forma net tangible book value per share of common stock from the price per share that you pay for the common stock. If the holders of outstanding options or warrants exercise those options or warrants at

prices below the public offering price, you will incur further dilution. See Dilution.

Sales of substantial amounts of our common stock or the perception that such sales may occur could cause the market price of our common stock to drop significantly, even if our business is performing well.

The market price of our common stock could decline as a result of sales by, or the perceived possibility of sales by, our existing stockholders of shares of our common stock in the market after this offering. These sales might also make it more difficult for us to sell equity securities at a time and price that we deem appropriate. The lock-up agreements delivered by our directors and officers to the placement agents in

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connection with this offering generally provide that they will not dispose of their shares of our common stock for a period of 90 days after the date of this prospectus supplement. The placement agents have no pre-established conditions to waiving the terms of the lock-up agreements, and any decision by them to waive those conditions would depend on a number of factors, which may include market conditions, the performance of the common stock in the market and our financial condition at that time. In addition, we have filed resale shelf registration statements to register shares of our common stock that may be sold by certain of our stockholders, which may increase the likelihood of sales by, or the perception of an increased likelihood of sales by, our existing stockholders of shares of our common stock.

We will have broad discretion in how we use the proceeds of this offering, and we may not use these proceeds effectively, which could affect our results of operations and cause our stock price to decline.

We will have considerable discretion in the application of the net proceeds of this offering. We currently intend to use the net proceeds of this offering to fund our research and development programs and their related costs, including conducting clinical trials of our product candidates, as well as possibly commercial launch preparation. However, our management has broad discretion over how these proceeds are used and could spend the proceeds in ways with which you may not agree. We may not invest the proceeds of this offering effectively or in a manner that yields a favorable or any return, and consequently, this could result in financial losses that could have a material and adverse effect on our business, cause the price of our common stock to decline or delay the development of our product candidates.

Anti-takeover provisions in our charter documents and under Delaware law may make an acquisition of us, which may be beneficial to our stockholders, more difficult, which could depress our stock price. Alternatively, prohibitions on anti-takeover provisions in our charter documents may restrict us from acting in the best interests of our stockholders.

We are incorporated in Delaware. Certain anti-takeover provisions of Delaware law and our charter documents as currently in effect may make a change in control of our company more difficult, even if a change in control would be beneficial to the stockholders. Our bylaws limit who may call a special meeting of stockholders and establish advance notice requirements for nomination for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings. Delaware law also prohibits corporations from engaging in a business combination with any holders of 15% or more of their capital stock until the holder has held the stock for three years unless, among other possibilities, the board of directors approves the transaction. Our board of directors may use these provisions to prevent changes in the management and control of our company. Also, under applicable Delaware law, our board of directors may adopt additional anti-takeover measures in the future. In addition, provisions of certain contracts, such as stock option agreements under our 2005 Equity Incentive Plan and employment agreements with our executive officers, may have an anti-takeover effect. In particular, we agreed with our president/chief medical officer that, among other things, in the event of our acquisition, 50% of any unvested portion of an option we granted to him would vest upon such acquisition, with the remaining unvested portion vesting monthly over the 12 months following such acquisition. As a result, if an acquirer desired to retain the services of our president/chief medical officer following an acquisition, it may be required to further incentive him with additional options or other securities, which may deter or affect the terms of an acquisition or potential acquisition.

In connection with a July 2005 private placement, we agreed with the investors in that transaction that we would not implement certain additional measures that would have an anti-takeover effect. As a result, under our amended and restated certificate of incorporation, we are prohibited from dividing our board of directors into classes and adopting or approving any rights plan, poison pill or other similar plan or device. A classified board of directors could serve to protect our stockholders against unfair treatment in takeover situations, by making it more difficult and time-consuming for a potential acquirer to take control of our board of directors. A company may also adopt a

classified board of directors to ensure stability in the board of directors and thereby improve long-term planning, which arguably benefits stockholders. A poison pill or similar plan may encourage potential acquirers to discuss their intentions with the board of directors of a

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company and avoid the time, expense and distraction of a hostile take-over. Any benefit to us and our stockholders from instituting a classified board or adopting or approving a poison pill or similar plan or device in these and other circumstances would be unavailable unless and until we amend our amended and restated certificate of incorporation.

Concentration of ownership of our common stock among our existing executive officers, directors and principal stockholders may prevent new investors from influencing significant corporate decisions.

Upon completion of this offering, our executive officers and directors and the beneficial owners of 5% or more of our common stock and their affiliates will, in aggregate, beneficially own approximately 23% of our outstanding common stock. These persons, if acting together, will be able to exercise significant influence over all matters requiring stockholder approval, including the election and removal of directors and any merger, consolidation or sale of all or substantially all of our assets. In addition, these persons, acting together, may have the ability to control our management and affairs. This concentration of ownership may harm the market price of our common stock by delaying or preventing a change in control of our company at a premium price even if beneficial to our other stockholders.

Because we do not expect to pay dividends in the foreseeable future, you must rely on stock appreciation for any return on your investment.

We have paid no cash dividends on any of our capital stock to date, and we currently intend to retain our future earnings, if any, to fund the development and growth of our business. As a result, we do not expect to pay any cash dividends in the foreseeable future, and payment of cash dividends, if any, will also depend on our financial condition, results of operations, capital requirements and other factors and will be at the discretion of our board of directors. Furthermore, we are subject to various laws and regulations that may restrict our ability to pay dividends and we may in the future become subject to contractual restrictions on, or prohibitions against, the payment of dividends. Accordingly, the success of your investment in our common stock will likely depend entirely upon any future appreciation. There is no guarantee that our common stock will appreciate in value after the offering or even maintain the price at which you purchased your shares, you may not realize a return on your investment in our common stock and you may lose your entire investment in our common stock.

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Special note regarding forward-looking statements

Some of the statements contained or incorporated by reference in this prospectus supplement and accompanying prospectus, including under **Our Company**, **Risk factors** and elsewhere in this prospectus supplement and accompanying prospectus, constitute forward-looking statements. These statements involve known and unknown risks, uncertainties, and other factors that may cause our actual results to be materially different from projected results expressed or implied by the forward-looking statements. These factors include, among others, those listed under **Risk factors** in this prospectus supplement, and those contained or incorporated by reference elsewhere in this prospectus supplement and accompanying prospectus.

In some cases, you can identify forward-looking statements by terms such as **may**, **will**, **should**, **expects**, **plans**, **anticipates**, **believes**, **estimates**, **predicts**, **potential**, or **continue** or similar terms.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. Our actual results could differ materially from those expressed or implied by these forward-looking statements as a result of various factors, including the risk factors described under the heading **Risk factors** in this prospectus supplement and accompanying prospectus and those contained or incorporated by reference elsewhere in this prospectus. We undertake no obligation to update publicly any forward-looking statements for any reason, except as required by law, even as new information becomes available or other events occur in the future.

Use of proceeds

We estimate that the net proceeds we will receive from this offering will be approximately \$37,298,825 after deducting the placement agents' fees and estimated offering expenses and assuming that we sell the maximum number of shares offered hereby.

We will retain broad discretion over the use of the net proceeds from the sale of our common stock offered hereby. We currently anticipate using the net proceeds from this offering to fund our research and development programs and their related costs, including conducting clinical trials of our product candidates, as well as possibly commercial launch preparation.

The timing and amount of our actual expenditures will be based on many factors, including progress in, and the costs of, our research and development programs, including our clinical trials, our ability to identify collaborators for our product candidates, our ability to negotiate and enter into definitive agreements with any such collaborators and the amount and timing of revenues, if any, from future collaborations. We therefore cannot estimate the amount of net proceeds to be used for all of the purposes described above. Until we use the net proceeds of this offering for the above purposes, we intend to invest the funds in short-term, investment grade, interest-bearing securities. We cannot predict whether the proceeds invested will yield a favorable return.

Table of Contents**Capitalization**

The following table sets forth our capitalization as of September 30, 2006:

on an actual basis; and

on an as-adjusted basis, to give effect to the sale of 14,545,000 shares of common stock offered by us in this offering, at a price of \$2.75 per share and after deducting the placement agents' fees and estimated offering expenses payable by us.

	As of September 30, 2006	
	Actual	As Adjusted
	(Unaudited)	
Cash, cash equivalents and short-term investments	\$ 17,095,508	\$ 54,394,333
Shareholders' equity (deficiency):		
Temporary equity:		
Common stock subject to continuing registration, \$.001 par value; 10,810,809 shares issued and outstanding		
Shareholders' equity (deficiency):		
Common stock, \$.001 par value; 200,000,000 shares authorized; 63,260,334 shares issued and outstanding, actual; 77,805,334 shares issued and outstanding, as adjusted	74,095	88,640
Additional paid-in capital	70,904,626	108,188,906
Accumulated other comprehensive loss	870	870
Deficit accumulated during the development stage	(82,856,988)	(82,856,988)
Treasury stock, 23,165 shares at cost	(34,747)	(34,747)
Total shareholders' equity (deficiency)	(11,912,144)	25,386,681
Total capitalization	\$ (11,912,144)	\$ 25,386,681

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Our pro forma net tangible book value as of September 30, 2006 was approximately \$(11,912,144) or \$(0.16) per share of common stock. Pro forma net tangible book value per share is calculated by subtracting our total liabilities from our total tangible assets, which is total assets less intangible assets, and dividing this amount by the number of shares of common stock outstanding. After giving effect to the sale by us of the 14,545,000 shares of common stock offered in this offering at a price of \$2.75 per share, and after deducting the placement agents' fees and estimated offering expenses payable by us, our pro forma, as-adjusted net tangible book value as of September 30, 2006 would have been approximately \$25,386,681, or \$0.29 per share of common stock. This represents an immediate increase in the pro forma net tangible book value of \$0.45 per share to our existing stockholders and an immediate and substantial dilution in pro forma net tangible book value of \$2.46 per share to new investors. The following table illustrates this per share dilution:

Offering price per share	\$ 2.75
Pro forma net tangible book value per share as of September 30, 2006	\$ (0.16)
Increase per share attributable to new investors	\$ 0.45
Pro forma, as-adjusted net tangible book value per share after this offering	\$ 0.29
Dilution per share to new investors	\$ 2.46
	\$-20

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Certain relationships and related party transactions

In a July 2005 private placement, we sold securities to investors that included (i) Icahn Partners LP, Icahn Partners Master Fund LP and High River Limited Partnership (the Icahn Funds) and (ii) Viking Global Equities LP and VGE III Portfolio Ltd. (the Viking Funds). In connection with this private placement, we entered into a Rights Agreement on July 27, 2005 (the Icahn/Viking Agreement) with the Icahn Funds and the Viking Funds (together, the Icahn/Viking Investors). Pursuant to the Icahn/Viking Agreement, we amended and restated our certificate of incorporation, after receiving stockholder approval therefor, to provide that we are prohibited from dividing our board of directors into classes and adopting or approving any rights plan, poison pill or other similar plan or device. See Risk factors Anti-takeover provisions in our charter documents and under Delaware law may make an acquisition of us, which may be beneficial to our stockholders, more difficult, which could depress our stock price. Alternatively, prohibitions on anti-takeover provisions in our charter documents may restrict us from acting in the best interests of our stockholders.

Pursuant to the Icahn/Viking Agreement, we also agreed, among other things, to the following:

to grant the Icahn/Viking Investors the right to participate in sales of securities (with certain enumerated exceptions) including the right to purchase (i) up to 50% of securities sold in a public offering if the offering price is equal to or below \$8.00 per share, (ii) up to 20% of the securities sold in a public offering if the offering price is above \$8.00 per share, and (iii) up to 50% of the securities sold in a private offering; provided, however, that these participation rights terminate upon the earliest to occur of (x) July 27, 2012, (y) the date on which the Icahn/Viking Investors cease to beneficially own at least 50% of the common stock originally purchased by them in the private placement, or (z) a change of control of the Company;

to obtain stockholder approval of any change of control transaction; and

to expand the size of the board of directors by one member and appoint a nominee of the Icahn/Viking Investors. Thereafter, for so long as the Icahn/Viking Investors hold the participation rights described above, we are required to nominate a nominee selected by them to our board of directors.

At a meeting on August 9, 2005, our board of directors expanded the size of our board from five (5) to six (6) and appointed Mr. Keith Meister, the designee of the Icahn/Viking Investors, to our board of directors. At the annual stockholders meeting of the Company held on May 15, 2006, the stockholders re-elected Mr. Meister as a director.

On September 22, 2006, in connection with the appointment of Mr. Jack Lief to our board of directors, we entered into an amendment to the Icahn/Viking Agreement that provides that the board of directors may set the authorized number of directors at seven, if the vacancy created by such action is filled by Mr. Lief, provided, however, that, if at any time there are then seven members of the board and one of such members is removed or resigns, retires or dies and the director designee of the Icahn/Viking Investors, if any, does not approve a successor, we agree to do those things reasonably necessary and within our control to, as soon as reasonably practicable after the effective date of such removal, resignation, retirement or death, set the authorized number of board directors at six.

On October 26, 2006, Mr. Meister resigned as the director designee of the Icahn/Viking Investors and Alexander J Denner, Ph.D. was appointed as the designee of the Icahn/Viking Investors to take his place.

In connection with this offering, the Icahn/Viking Investors have waived their rights to participate in this offering.

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Plan of distribution

Pursuant to a placement agency agreement dated November 2, 2006, we have engaged ThinkEquity Partners LLC and Fortis Securities LLC to act as our exclusive placement agents in connection with an offering of our shares of common stock under a registration statement on Form S-3, of which this prospectus supplement is a part. Under the terms of the placement agency agreement, the placement agents have agreed to be our exclusive placement agents, on a best efforts basis, in connection with the issuance and sale by us of our shares of common stock in a proposed takedown from our registration statement. The terms of any such offering will be subject to market conditions and negotiations between us, the placement agents and prospective purchasers. The placement agency agreement provides that the obligations of the placement agents are subject to certain conditions precedent, including the absence of any material adverse change in our business and the receipt of certain certificates, opinions and letters from us, our counsel and our auditors. The placement agency agreement does not give rise to any commitment by the placement agents to purchase any of our shares of common stock, and the placement agents will have no authority to bind us by virtue of the placement agency agreement. Further, the placement agents do not guarantee that they will be able to raise new capital in any prospective offering.

We will enter into purchase agreements directly with investors in connection with this offering, and we will only sell to investors who have entered into purchase agreements. A form of purchase agreement is attached as Appendix A to this prospectus supplement.

Unless purchasers instruct us otherwise, we will deliver the shares of common stock being issued to the purchasers electronically upon receipt of purchaser funds for the purchase of the shares of our common stock offered pursuant to this prospectus supplement. We expect to deliver the shares of our common stock being offered pursuant to this prospectus supplement on or about November 8, 2006.

We have agreed to pay the placement agents a total placement fee equal to 6.0% of the gross proceeds of this offering and to reimburse the placement agents all costs and expenses incurred by them in connection with this offering, including the fees, disbursements and other charges of counsel to the placement agents in an amount not to exceed \$50,000.

In compliance with the guidelines of the National Association of Securities Dealers, the maximum consideration or discount to be received by any NASD member may not exceed 8.0% of the aggregate amount of the securities offered pursuant to this prospectus supplement.

The placement agents have informed us that they will not engage in over-allotment, stabilizing transactions or syndicate covering transactions in connection with this offering.

In order to facilitate the closing, certain purchaser funds will be deposited into a non-interest bearing escrow account and held by the escrow agent until jointly released by us and the placement agents in a written instruction to the escrow agent on the date the shares are delivered to the purchasers. The escrow agent will not accept any purchaser funds until the date of this prospectus supplement.

We have agreed to indemnify the placement agents and specified other persons against some civil liabilities, including liabilities under the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, and to contribute to payments that the placement agents may be required to make in respect of those liabilities.

We and each of our directors and executive officers have agreed to certain restrictions on the ability to sell shares of our common stock and other securities that they beneficially own, including securities convertible into or exercisable

or exchangeable for our common stock, for a period of 90 days following the date of this prospectus supplement. This means that, subject to certain exceptions, for a period of 90 days following the date of this prospectus supplement, we and such persons may not, directly or indirectly, offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase

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Plan of distribution

any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of any shares of our common stock, without the prior written consent of ThinkEquity Partners LLC. Notwithstanding the foregoing, if (x) during the last 17 days of such 90 day period, we announce that we will release earnings results or publicly announce other material news or a material event relating to us occurs or (y) prior to the expiration of the 90 day period, we announce that we will release earnings results during the 16 day period beginning on the last day of the 90 day period, then in each case the 90 day period will be extended until the expiration of the 18 day period beginning on the date of release of the earnings results or the public announcement regarding the material news or the occurrence of the material event, as applicable, unless ThinkEquity Partners LLC waives, in writing, such extension. At any time and without public notice, ThinkEquity Partners LLC may in its sole discretion release all or some of the securities from these lock-up agreements.

The placement agency agreement with ThinkEquity Partners LLC and Fortis Securities LLC will be included as an exhibit to a Current Report on Form 8-K that we will file with the SEC and that will be incorporated by reference into the registration statement of which this prospectus supplement forms a part.

The placement agents or their affiliates may in the future provide investment banking, commercial banking and/or other services to us from time to time, for which they may in the future receive customary fees and expenses.

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Legal matters

The validity of the common stock offered hereby will be passed upon by Heller Ehrman LLP, San Diego, California. Lowenstein Sandler PC, New York, New York, will pass upon certain legal matters in connection with this offering for the placement agents.

Experts

Our consolidated balance sheets as of December 31, 2005 and 2004, and the related consolidated statements of operations, shareholders' equity (deficit) and cash flows for each of the years in the three-year period ended December 31, 2005, and for the period from June 12, 1996 (date of inception) through December 31, 2005, and the reports on management's assessment of the effectiveness of internal control over financial reporting and the effectiveness of our internal control over financial reporting as of December 31, 2005, have been incorporated by reference in this prospectus supplement, in the accompanying prospectus and in the registration statement of which this prospectus supplement and the accompanying prospectus form a part in reliance on the reports of J.H. Cohn LLP, independent registered public accounting firm, given upon the authority of that firm as experts in accounting and auditing. The report of J.H. Cohn LLP notes that the consolidated financial statements for the period from June 12, 1996 (date of inception) through December 31, 2001, were audited by other auditors. J.H. Cohn LLP's opinion insofar as it relates to the period from June 12, 1996 to December 31, 2001, is based solely on the report of such other auditors.

The financial statements of SD Pharmaceuticals, Inc. as of December 31, 2005 and 2004 and for the year ended December 31, 2005 and for the period from June 16, 2004 (date of inception) to December 31, 2004 have been incorporated by reference in this prospectus supplement, in the accompanying prospectus and in the registration statement of which this prospectus supplement and the accompanying prospectus form a part in reliance on the report, which includes an explanatory paragraph relating to the ability of SD Pharmaceuticals, Inc. to continue as a going concern, of J.H. Cohn LLP, independent registered public accounting firm, given upon the authority of that firm as experts in accounting and auditing.

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Incorporation of certain information by reference

We have filed with the SEC a registration statement under the Securities Act of 1933, as amended, on Form S-3 relating to the common stock offered by this prospectus supplement. This prospectus supplement and the accompanying prospectus constitute a part of the registration statement but do not contain all of the information set forth in the registration statement and its exhibits. For further information, we refer you to the registration statement and its exhibits.

The SEC allows us to incorporate by reference into this prospectus supplement and accompanying prospectus the information contained in other documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded, for purposes of this prospectus supplement or accompanying prospectus, to the extent that a statement contained in or omitted from this prospectus supplement and accompanying prospectus, or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement or accompanying prospectus. We incorporate by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, until the offering is completed:

1. Our Annual Report on Form 10-K for the year ended December 31, 2005, filed March 16, 2006;
2. Our Definitive Proxy Statement on Schedule 14A, filed April 10, 2006;
3. Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2006 and June 30, 2006, filed May 5, 2006 (as amended on Form 10-Q/A, filed May 22, 2006) and August 9, 2006 (as amended on Form 10-Q/A, filed October 30, 2006), respectively;
4. Our Current Reports on Form 8-K filed January 30, 2006, January 31, 2006, February 6, 2006, February 15, 2006, March 1, 2006, March 20, 2006 (as amended on Form 8-K/A filed March 27, 2006), April 6, 2006, April 11, 2006 (as amended on Form 8-K/A filed May 1, 2006), June 5, 2006, June 23, 2006, June 30, 2006, July 12, 2006, July 19, 2006, July 25, 2006, August 10, 2006, September 8, 2006, September 22, 2006 (as amended on Form 8-K/A filed October 2, 2006), October 23, 2006, October 26, 2006 and November 3, 2006; and
5. The description of our common stock contained in our registration statement on Form 8-A (file No. 001-32157) filed April 27, 2004, including any amendment or report for the purposes of updating such description.

Upon written or oral request, we will provide without charge to each person to whom a copy of this prospectus supplement and accompanying prospectus is delivered a copy of the documents incorporated by reference herein (other than exhibits to such documents unless such exhibits are specifically incorporated by reference herein). You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number: ADVENTRX Pharmaceuticals, Inc., 6725 Mesa Ridge Road, Suite 100, San Diego, California 92121, Attention: Chief Financial Officer, telephone: (858) 552-0866. We have authorized no one to provide you with any information that differs from that contained in this prospectus supplement or the accompanying prospectus. Accordingly, you should not rely on any information that is not contained in this prospectus supplement or

accompanying prospectus.

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Where you can find more information about us

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file with the SEC at the Public Reference Room at the SEC, 100 F Street, N.E., Washington, D.C. 20549. Please call 1-800-SEC-0330 for further information concerning the Public Reference Room. The SEC also makes these documents and other information available on its website at <http://www.sec.gov>. We also maintain a website at <http://www.adventrx.com>. The material on our website is not a part of this prospectus supplement or the accompanying prospectus.

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Appendix A Form of purchase agreement

ADVENTRX Pharmaceuticals, Inc.
6725 Mesa Ridge Road
Suite 100
San Diego, California 92121

Ladies and Gentlemen:

The undersigned (the *Investor*) hereby confirms and agrees with you as follows:

1. The subscription terms set forth herein (this *Subscription*) are made as of the date set forth below between ADVENTRX Pharmaceuticals, Inc., a Delaware corporation (the *Company*), as set forth below between the Company and the Investor.
2. As of the Closing (as defined below) and subject to the terms and conditions hereof, the Company and the Investor agree that the Investor will purchase from the Company and the Company will issue and sell to the Investor such number of shares of common stock, par value \$0.001 per share, of the Company (the *Common Stock*) as is set forth on the signature page hereto (the *Signature Page*) for a purchase price of \$2.75 per share (the *Shares*). The Investor acknowledges that the offering is not a firm commitment underwriting and that there is no minimum offering amount.
3. The completion of the purchase and sale of the Shares shall occur at a closing (the *Closing*) which, in accordance with Rule 15c6-1 promulgated under the Securities Exchange Act of 1934, as amended, is expected to occur on or about November 8, 2006. At the Closing, (a) the Company shall cause its transfer agent to release to the Investor the number of Shares being purchased by the Investor and (b) the aggregate purchase price for the Shares being purchased by the Investor will be delivered by or on behalf of the Investor to the Company. If the Investor chooses to settle via DWAC (by checking the appropriate space on the Signature Page hereto), the provisions set forth in Exhibit A hereto shall be incorporated herein by reference as if set forth fully herein.
4. The offering and sale of the Shares are being made pursuant to the Registration Statement and the Prospectus (as such terms are defined below). The Investor acknowledges that the Company intends to enter into subscriptions in substantially the same form as this Subscription with certain other investors and intends to offer and sell (the *Offering*) up to an aggregate of 14,545,000 shares of Common Stock pursuant to the Registration Statement and Prospectus. The Company may accept or reject this Subscription or any one or more other subscriptions with other investors in its sole discretion.
5. The Company has filed or shall file with the Securities and Exchange Commission (the *Commission*) a prospectus (the *Base Prospectus*) and a final prospectus supplement (collectively, the *Prospectus*) with respect to the registration statement (File No. 333-133729) reflecting the Offering, including all amendments thereto, the exhibits and any schedules thereto, the documents otherwise deemed to be a part thereof or included therein by the rules and regulations of the Commission (the *Rules and Regulations*), and any registration statement relating to the Offering and filed pursuant to Rule 462(b) under the Rules and Regulations (collectively, the *Registration Statement*), in conformity with the Securities Act of 1933, as amended (the *Securities Act*), including Rule 424(b) thereunder. The Investor hereby confirms that it has had full access to the Base Prospectus, the prospectus supplement and the Company's periodic reports and other information incorporated by reference therein, and was able to read, review, download and print such materials.

6. The Company has entered into a Placement Agency Agreement (the *Placement Agreement*), dated November 2, 2006 with ThinkEquity Partners LLC and Fortis Securities LLC (the *Placement Agents*), which will act as the Company's placement agents with respect to the Offering and receive a fee in connection with the sale of the Shares. The Placement Agreement contains certain representations and warranties of the

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Appendix A Form of purchase agreement

Company. The Company acknowledges and agrees that the Investor may rely on the representations and warranties made by it to the Placement Agents in Section 2 of the Placement Agreement to the same extent as if such representations and warranties had been incorporated in full herein and made directly to the Investor. Capitalized terms used, but not otherwise defined, herein shall have the meanings ascribed to such terms in the Placement Agreement.

7. The obligations of the Company and the Investor to complete the transactions contemplated by this Subscription shall be subject to the following:

a. The Company's obligation to issue and sell the Shares to the Investor shall be subject to: (i) the acceptance by the Company of this Subscription (as may be indicated by the Company's execution of the Signature Page hereto), (ii) the receipt by the Company of the purchase price for the Shares being purchased hereunder as set forth on the Signature Page and (iii) the accuracy of the representations and warranties made by the Investor and the fulfillment of those undertakings of the Investor to be fulfilled prior to the Closing Date.

b. The Investor's obligation to purchase the Shares will be subject to the condition that the Representative shall not have: (i) terminated the Placement Agreement pursuant to the terms thereof or (ii) determined that the conditions to closing in the Placement Agreement have not been satisfied.

8. The Company hereby makes the following representations, warranties and covenants to the Investor:

a. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Subscription and otherwise to carry out its obligations hereunder. The execution and delivery of this Subscription by the Company and the consummation by it of the transactions contemplated hereunder have been duly authorized by all necessary action on the part of the Company. This Subscription has been duly executed by the Company and, when delivered in accordance with the terms hereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except as may be limited by any bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or other similar laws affecting the enforcement of creditors' rights generally or by general principles of equity.

b. The Company shall (i) before the opening of trading on the American Stock Exchange on the next trading day after the date hereof, issue a press release, disclosing all material aspects of the transactions contemplated hereby and (ii) make such other filings and notices in the manner and time required by the Commission with respect to the transactions contemplated hereby. The Company shall not identify the Investor by name in any press release or public filing, or otherwise publicly disclose the Investor's name, without the Investor's prior written consent, unless required by law or the rules and regulations of any self-regulatory organization which the Company or its securities are subject.

9. The Investor hereby makes the following representations, warranties and covenants to the Company:

a. The Investor represents that (i) it has had full access to the Base Prospectus and the prospectus supplement as well as the Company's periodic reports and other information incorporated by reference therein, prior to or in connection with its receipt of this Subscription, (ii) it is knowledgeable, sophisticated and experienced in making, and is qualified to make, decisions with respect to investments in securities representing an investment decision like that involved in the purchase of the Shares, and (iii) it does not have any agreement or understanding, directly or indirectly, with any person or entity to distribute any of the Shares.

b. The Investor has the requisite power and authority to enter into this Subscription and to consummate the transactions contemplated hereby. The execution and delivery of this Subscription by the Investor and the

consummation by it of the transactions contemplated hereunder have been duly authorized by all necessary action on the part of the Investor. This Subscription has been executed by the Investor and, when delivered in accordance with the terms hereof, will constitute a valid and binding

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Appendix A Form of purchase agreement

obligation of the Investor enforceable against the Investor in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors and contracting parties' rights generally and except as enforceability may be subject to general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

c. The Investor understands that nothing in this Subscription or any other materials presented to the Investor in connection with the purchase and sale of the Shares constitutes legal, tax or investment advice. The Investor has consulted such legal, tax and investment advisors as it, in its sole discretion, has deemed necessary or appropriate in connection with its purchase of Shares.

d. Neither the Investor nor any Person acting on behalf of, or pursuant to any understanding with or based upon any information received from, the Investor has, directly or indirectly, engaged in any transactions in the securities of the Company (including, without limitation, any Short Sales involving the Company's securities) since the earlier to occur of (i) the time that the Investor was first contacted by the Placement Agents or the Company with respect to the transactions contemplated hereby and (ii) the date that is the tenth (10th) trading day prior to the date the Investor executes this Subscription. Short Sales include, without limitation, all short sales as defined in Rule 200 promulgated under Regulation SHO under the Securities Exchange Act of 1934, as amended (the *Exchange Act*), whether or not against the box, and all types of direct and indirect stock pledges, forward sale contracts, options, puts, calls, short sales, swaps, put equivalent positions (as defined in Rule 16a-1(h) under the Exchange Act) and similar arrangements (including on a total return basis), and sales and other transactions through non-U.S. broker dealers or foreign regulated brokers. The Investor covenants that neither it, nor any Person acting on behalf of, or pursuant to any understanding with or based upon any information received from, the Investor will engage in any transactions in the securities of the Company (including Short Sales) prior to the time that the transactions contemplated by this Subscription are publicly disclosed.

e. The Investor represents that, except as set forth below, (i) it has had no position, office or other material relationship within the past three years with the Company or persons known to it to be affiliates of the Company, (ii) it is not a, and it has no direct or indirect affiliation or association with any, NASD member or an Associated Person (as such term is defined under the NASD Membership and Registration Rules Section 1011) as of the date the Investor executes this Subscription, and (iii) neither it nor any group of investors (as identified in a public filing made with the Commission) of which it is a member, acquired, or obtained the right to acquire, 20% or more of the Common Stock (or securities convertible or exercisable for Common Stock) or the voting power of the Company on a post-transaction basis. Exceptions:

(If no exceptions, write none. If left blank, response will be deemed to be none.)

f. The Investor, if outside the United States, will comply with all applicable laws and regulations in each foreign jurisdiction in which it purchases, offers, sells or delivers Shares or has in its possession or distributes any offering material, in all cases at its own expense.

10. Notwithstanding any investigation made by any party to this Subscription, all covenants, agreements, representations and warranties made by the Company and the Investor herein will survive the execution of this Subscription, the delivery to the Investor of the Shares being purchased and the payment therefor.

11. This Subscription may not be modified or amended except pursuant to an instrument in writing signed by the Company and the Investor.

12. In case any provision contained in this Subscription should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein will not in any way be affected or impaired thereby.

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Appendix A Form of purchase agreement

13. This Subscription will be governed by, and construed in accordance with, the internal laws of the State of New York, without giving effect to the principles of conflicts of law that would require the application of the laws of any other jurisdiction.

14. This Subscription may be executed in one or more counterparts, each of which will constitute an original, but all of which, when taken together, will constitute but one instrument, and will become effective when one or more counterparts have been signed by each party hereto and delivered to the other parties.

15. The Investor acknowledges and agrees that such Investor's receipt of the Company's counterpart to this Subscription shall constitute written confirmation of the Company's sale of Shares to such Investor.

16. In the event that the Placement Agreement is terminated by the Placement Agents pursuant to the terms thereof, this Subscription shall terminate without any further action on the part of the parties hereto.

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Appendix A Form of purchase agreement

INVESTOR SIGNATURE PAGE

Number of Shares: ____

Purchase Price Per Share: \$ ____

Aggregate Purchase Price: \$ ____

Please confirm that the foregoing correctly sets forth the agreement between us by signing in the space provided below for that purpose.

Dated as of: November 2, 2006

INVESTOR

By:

Print Name: ____

Title: ____

Name in which Shares are to be registered: ____

Mailing Address:

Taxpayer Identification Number: ____

Manner of Settlement (check one):

DWAC (see Exhibit A for explanation and instructions)

DVP (see Exhibit B for explanation and instructions)

Agreed and Accepted this 2nd day of November 2006:

ADVENTRX PHARMACEUTICALS, INC.

By: ____

Title: ____

The sale of the Shares purchased hereunder was made pursuant to a registration statement or in a transaction in which a final prospectus would have been required to have been delivered in the absence of Rule 172 promulgated under the Securities Act.

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Appendix A Form of purchase agreement

Exhibit A

TO BE COMPLETED BY INVESTOR

SETTLING VIA DWAC

Delivery by electronic book-entry at The Depository Trust Company (*DTC*), registered in the Investor's name and address as set forth on the Signature Page of the Subscription to which this Exhibit A is attached, and released by American Stock Transfer Trust Company, the Company's transfer agent (the *Transfer Agent*), to the Investor at the Closing.

Name of DTC Participant (broker-dealer at which the account or accounts to be credited with the Shares are maintained)

DTC Participant Number

Name of Account at DTC Participant being credited with the Shares

Account Number at DTC Participant being credited with the Shares

NO LATER THAN ONE (1) BUSINESS DAY AFTER THE EXECUTION OF THE SUBSCRIPTION TO WHICH THIS EXHIBIT A IS ATTACHED BY THE INVESTOR AND THE COMPANY, THE INVESTOR SHALL:

- (I) DIRECT THE BROKER-DEALER AT WHICH THE ACCOUNT OR ACCOUNTS TO BE CREDITED WITH THE SHARES ARE MAINTAINED TO SET UP A DEPOSIT/WITHDRAWAL AT CUSTODIAN (*DWAC*) INSTRUCTING THE TRANSFER AGENT TO CREDIT SUCH ACCOUNT OR ACCOUNTS WITH THE SHARES, AND**

- (II) REMIT BY WIRE TRANSFER THE AMOUNT OF FUNDS EQUAL TO THE AGGREGATE PURCHASE PRICE FOR THE SHARES BEING PURCHASED BY THE INVESTOR TO THE FOLLOWING ACCOUNT:**

PNC Bank New Jersey

ABA#: 031207607

Account Name: Lowenstein Sandler PC Attorney Trust Account

Account #: 8025720123

Such funds shall be held in escrow pursuant to an escrow agreement entered into between Lowenstein Sandler PC (the *Escrow Agent*), the Placement Agents and the Company (the *Escrow Agreement*) until the Closing and delivered by the Escrow Agent on behalf of the Investor to the Company upon the satisfaction, in the sole judgment of the Representative, of the conditions set forth in Section 7(b) of the Subscription to which this Exhibit A is attached. The Company and the Investor agree to indemnify and hold the Escrow Agent harmless from and against any and all losses, costs, damages, expenses and claims (including, without limitation, court costs and reasonable attorneys fees) (*Losses*) with respect to the funds held in escrow pursuant hereto or arising under the Escrow Agreement, unless it is finally determined that such Losses resulted directly from the willful misconduct or gross negligence of the Escrow Agent. Anything in this paragraph to the contrary notwithstanding, in no event shall the Escrow Agent be liable for

any special, indirect or consequential loss or damage of any kind whatsoever (including but not limited to lost profits),
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Appendix A Form of purchase agreement

even if the Escrow Agent has been advised of the likelihood of such loss or damage and regardless of the form of action.

Investor acknowledges that the Escrow Agent acts as counsel to the Placement Agents, and shall have the right to continue to represent the Placement Agents, in any action, proceeding, claim, litigation, dispute, arbitration or negotiation in connection with the Offering, and Investor hereby consents thereto and waives any objection to the continued representation of the Placement Agents by the Escrow Agent in connection therewith based upon the services of the Escrow Agent under the Escrow Agreement, without waiving any duty or obligation the Escrow Agent may have to any other person.

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Appendix A Form of purchase agreement

Exhibit B

TO BE COMPLETED BY INVESTOR

SETTLING VIA DVP

Delivery versus payment (*DVP*) through DTC (i.e., the Company shall deliver Shares registered in the Investor's name and address as set forth on the Signature Page of the Subscription to which this Exhibit B is attached and released by American Stock Transfer Trust Company, the Company's transfer agent (the *Transfer Agent*), to the Placement Agents at the Closing for settlement with such Investor directly to the account(s) at the Investor's prime broker identified by the Investor and simultaneously therewith payment shall be made from such account(s) to the Company through the Placement Agents). **NO LATER THAN ONE (1) BUSINESS DAY AFTER THE EXECUTION OF THE SUBSCRIPTION TO WHICH THIS EXHIBIT B IS ATTACHED BY THE INVESTOR AND THE COMPANY, THE INVESTOR SHALL:**

- (I) NOTIFY THE PLACEMENT AGENT OF THE ACCOUNT OR ACCOUNTS AT THE INVESTOR'S PRIME BROKER TO BE CREDITED WITH THE SHARES BEING PURCHASED BY SUCH INVESTOR, AND**

- (II) CONFIRM THAT THE ACCOUNT OR ACCOUNTS AT THE INVESTOR'S PRIME BROKER TO BE CREDITED WITH THE SHARES BEING PURCHASED BY THE INVESTOR HAVE A MINIMUM CASH BALANCE EQUAL TO THE AGGREGATE PURCHASE PRICE FOR THE SHARES BEING PURCHASED BY THE INVESTOR.**

If the Shares are to be credited to an account held elsewhere than at any Placement Agent, please complete the information requested below in order to facilitate such further credit:

Name of DTC Participant (broker-dealer at which the account or accounts to be credited with the Shares are maintained)

DTC Participant Number

Name of Account at DTC Participant being credited with the Shares

Account Number at DTC Participant being credited with the Shares

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PROSPECTUS

\$100,000,000

Common Stock

**ADVENTRX Pharmaceuticals, Inc.
6725 Mesa Ridge Road, Suite 100
San Diego, California 92121
(858) 558-0866**

ADVENTRX Pharmaceuticals, Inc. (the Company) is offering an aggregate of up to \$100,000,000 of its common stock.

We may sell the shares covered by this prospectus from time to time in transactions on the American Stock Exchange LLC, in the over-the-counter market or in negotiated transactions. We may sell directly, or through agents or dealers designated from time to time, at fixed prices, at prevailing market prices at the time of sale, at varying prices determined at the time of sale or at negotiated prices.

Our common stock is listed on the American Stock Exchange LLC under the symbol ANX. On May 8, 2006, the last reported sale price of our common stock on the American Stock Exchange LLC was \$4.93 per share.

Investing In Our Common Stock Involves Risks. See Risk Factors beginning on page 7.

Neither the Securities and Exchange Commission nor any state securities regulator has approved or disapproved the shares of common stock covered by this prospectus, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is May 8, 2006

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Important Information About This Prospectus

This prospectus is part of a shelf registration statement that we filed with the SEC. By using a shelf registration statement, we may sell our common stock, as described in this prospectus, from time to time in one or more offerings. Each time we sell our common stock, we will provide a supplement to this prospectus that contains specific information about the terms of that offering. The supplement may also add, update or change information contained in this prospectus. Before purchasing any of our common stock, you should carefully read both this prospectus and any supplement, together with the additional information incorporated into this prospectus or described under the heading **Where You Can Find More Information**.

You should rely only on the information contained or incorporated by reference in this prospectus and any prospectus supplement. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We will not make an offer to sell our common stock in any jurisdiction where the offer or sale is not permitted. The information in this prospectus and any prospectus supplement is accurate as of the date on the front cover of this prospectus or any prospectus supplement, and the information in documents we file with the SEC and incorporate by reference into this prospectus or any prospectus supplement, is accurate as of the date on those documents.

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In this prospectus, ADVENTRX, the company, we, us, and our refer to ADVENTRX Pharmaceuticals, Inc.

Special Note Regarding Forward-Looking Statements

Some of the statements under Our Company, Risk Factors and elsewhere in this prospectus constitute forward-looking statements. These statements involve known and unknown risks, uncertainties, and other factors that may cause our actual results to be materially different from projected results expressed or implied by the forward-looking statements. These factors include, among others, those listed under Risk Factors and elsewhere in this prospectus.

In some cases, you can identify forward-looking statements by terms such as may, will, should, expects, plans, anticipates, believes, estimates, predicts, potential, or continue or similar terms.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. Our actual results could differ materially from those expressed or implied by these forward-looking statements as a result of various factors, including the risk factors described under the heading Risk Factors and elsewhere in this prospectus. We undertake no obligation to update publicly any forward-looking statements for any reason, except as required by law, even as new information becomes available or other events occur in the future.

Where You Can Find More Information About Us

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. You may read and copy any document we file with the Commission at the Public Reference Room at the Commission, 100 F Street, N.E., Washington, D.C. 20549. Please call 1-800-SEC-0330 for further information concerning the Public Reference Room. The Commission also makes these documents and other information available on its website at <http://www.sec.gov>. We also maintain a website at <http://www.adventrx.com>. The material on our website is not a part of this prospectus or any prospectus supplement.

We have filed with the Commission a registration statement under the Securities Act on Form S-3 relating to the common stock offered by this prospectus. This prospectus and any prospectus supplement constitute a part of the registration statement but do not contain all of the information set forth in the registration statement and its exhibits. For further information, we refer you to the registration statement and its exhibits.

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The Commission allows us to incorporate by reference the information we file with it, which means that we can disclose certain information to you by referring you to another document we have filed with the Commission. We may furnish other information to the Commission which is not considered to be filed and is therefore not incorporated by reference into or otherwise a part of this prospectus, unless we indicate to the contrary. The information incorporated by reference is an important part of this prospectus and information that we file later with the Commission will automatically update this prospectus and replace any outdated information. We incorporate by reference the following:

- (a) the section entitled Description of Registrant's Securities contained in the Registrant's Registration Statement on Form 8-A (file No. 001-32157) filed with the Commission on April 27, 2004;
- (b) our Annual Report on Form 10-K for the fiscal year ended December 31, 2005 filed with the Commission on March 16, 2006;
- (c) our Current Report on Form 8-K filed with the Commission on January 30, 2006;
- (d) our Current Report on Form 8-K filed with the Commission on January 31, 2006;
- (e) our Current Report on Form 8-K filed with the Commission on February 6, 2006;
- (f) our Current Report on Form 8-K filed with the Commission on February 15, 2006;
- (g) our Current Report on Form 8-K filed with the Commission on March 1, 2006;
- (h) our Current Report on Form 8-K filed with the Commission on March 20, 2006 (Items 4.02, 8.01 and 9.01), as amended by Amendment No. 1 filed with the Commission on March 27, 2006;
- (i) our Current Report on Form 8-K filed with the Commission on March 20, 2006 (Items 8.01 and 9.01);
- (j) our Current Report on Form 8-K filed with the Commission on April 6, 2006;
- (k) our Current Report on Form 8-K filed with the Commission on April 11, 2006 as amended by Amendment No. 1 filed with the Commission on May 1, 2006; and
- (l) any future filings we make with the Commission under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act after the date of the initial registration statement and prior to effectiveness of the registration statement, and until we file a post-effective amendment which indicates the termination of the offering of the securities made by this prospectus.

You may request a copy of these filings, at no cost, by writing or telephoning:

Carrie E. Carlander
Chief Financial Officer
ADVENTRX Pharmaceuticals, Inc.
6725 Mesa Ridge Road, Suite 100
San Diego, California 92121
(858) 552-0866

We will provide exhibits to these filings at no cost only if they are specifically incorporated into those filings.

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Our Company

We are a biopharmaceutical research and development company focused on introducing new technologies for anticancer and antiviral treatments that improve the performance and safety of existing drugs by addressing significant problems such as drug metabolism, toxicity, bioavailability and resistance. We do not manufacture, market, sell or distribute any product. Pursuant to license agreements with University of Southern California and SD Pharmaceuticals, Inc., we have rights to drug candidates in varying stages of development. Our current drug candidates are CoFactor, ANX-530, Selone and Thiovir. All of these drug candidates are described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2005.

On May 30, 2003, we merged our wholly-owned subsidiary, Biokeys, Inc., into the Company and changed our name from Biokeys Pharmaceuticals, Inc. to ADVENTRX Pharmaceuticals, Inc. The merger had no effect on our financial statements.

In July 2004, we formed a wholly-owned subsidiary, ADVENTRX (Europe) Ltd., in the United Kingdom for the purpose of conducting drug trials in the European Union.

We have incurred net losses since our inception. As of December 31, 2005, our accumulated deficit was approximately \$59,964,840. We expect to incur substantial and increasing losses for the next several years as we continue development and possible commercialization of new products.

To date, we have funded our operations primarily through sales of equity securities.

Our business is subject to significant risks, including risks inherent in our ongoing clinical trials, the regulatory approval processes, the results of our research and development efforts, commercialization, and competition from other pharmaceutical companies.

Recent Developments

On April 7, 2006, we entered into an Agreement and Plan of Merger (the Merger Agreement) among the Company, SD Pharmaceuticals, Inc., a Delaware corporation (SDP), Speed Acquisition, Inc., a Delaware corporation and a wholly-owned subsidiary of the Company (Merger Sub), Paul Marangos and Andrew X. Chen, each as stockholders of SDP and Paul Marangos, as an individual acting as the stockholder representative. Pursuant to the Merger Agreement, we will acquire SDP through the merger of Merger Sub into SDP and SDP will continue as the surviving corporation and as a wholly-owned subsidiary of the Company (the Merger).

Upon the closing of the transaction on April 26, 2006, ADVENTRX acquired certain U.S. and ex-U.S. intellectual property rights to eight oncology and infectious disease product candidates, including certain ex-U.S. rights to SDP-012 (ANX-530, vinorelbine emulsion). In October 2005, ADVENTRX announced it had licensed U.S. development and marketing rights to SDP-012 (ANX-530) from SD Pharma. Certain product candidates that ADVENTRX acquired as a result of the merger are based on a nano-emulsion technology for both soluble and insoluble parenteral drugs. The nano-emulsion technology was developed by Dr. Andrew Chen and is designed to enable the delivery of vein irritating or difficult to dissolve drugs without excipient-induced adverse effects. Many of the product candidates are based on currently approved drugs and may qualify for the 505(b)(2) regulatory process. Certain product candidates obtained in the transaction are being evaluated by ADVENTRX as possible out-licensing opportunities.

The SD Pharma product portfolio consists of five anticancer and three anti-infective therapies which are listed below:

SDP-013 A non-allergenic, non cremophor-containing emulsion formulation of paclitaxel (Taxol[®]) designed to eliminate the need for immunosuppressant premedication, which is recommended for paclitaxel therapy to reduce the incidence and severity of severe hypersensitivity reaction. Paclitaxel is

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approved to treat breast, ovarian and non-small cell lung cancers. Taxoltm worldwide sales were approximately \$750 million in 2005. (Source: Bristol-Myers Squibb).

SDP-014 A novel docetaxel (Taxotere[®]) formulation not containing polysorbate 80 or other detergents, intended to eliminate the need for multiday immunosuppressant premedication, which is recommended for docetaxel therapy to reduce the incidence and severity of allergic reaction. Taxoteretm is approved to treat breast, non-small cell lung, prostate and gastric cancers. Worldwide Taxoteretm sales were approximately \$1.6 billion in 2005. (Source: Sanofi-Aventis)

SDP-012 (vinorelbine emulsion) A novel emulsion formulation of vinorelbine tartrate designed to reduce vein irritation associated with the drug. Vinorelbine is approved to treat non-small cell lung cancer. According to IMS Health, worldwide sales of vinorelbine in 2005 were over \$150 million.

SDP-111 A novel formulation of beta-elemene, a small molecule anticancer agent belonging to the triterpene family and currently approved in China for a variety of cancers.

SDP-112 An emulsion formulation of alpha-tocopheryl succinate, a form of vitamin E which has been shown to selectively facilitate apoptosis, or cell death, in cancer cells.

SDP-015 A proprietary intravenous formulation of an approved antibiotic in the macrolide family known as clarithromycin. Clarithromycin is approved for mild to moderate bacterial infections such as in community-acquired pneumonia. Only oral formulations of clarithromycin are currently available in the U.S.

SDP-011 A broad spectrum intranasal/topical anti-viral gel intended for use in cold and flu and other viral indications as an over-the-counter (OTC) product.

SDP-016 A novel formulation of vancomycin, a parenteral glycopeptide antibiotic approved to treat gram-positive bacterial infections. SDP-016 is designed to reduce the vein irritation and phlebitis associated with the IV-delivered drug.

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Risk Factors

Readers and prospective investors in our securities should carefully consider the following risk factors as well as the other information contained or incorporated by reference in this report. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties that management is not aware of or focused on or that management currently deems immaterial may also impair our business operations. This report is qualified in its entirety by these risk factors.

If any of the following risks actually occur, the Company's financial condition and results of operations could be materially and adversely affected. If this were to happen, the value of the Company's securities could decline significantly, and you could lose all or part of your investment.

We have a substantial accumulated deficit and limited working capital.

We had an accumulated deficit of \$59,964,840 as of December 31, 2005. Since we presently have no source of revenues and are committed to continuing our product research and development program, significant expenditures and losses will continue until development of new products is completed and such products have been clinically tested, approved by the FDA or other regulatory agencies and successfully marketed. In addition, we fund our operations primarily through the sale of equity securities, and have had limited working capital for our product development and other activities. We do not believe that debt financing from financial institutions will be available until at least the time that one of our products is approved for commercial production.

We have no current product sales revenues or profits.

We have devoted our resources to developing a new generation of therapeutic drug products, but such products cannot be marketed until clinical testing is completed and governmental approvals have been obtained. Accordingly, there is no current source of revenues, much less profits, to sustain our present activities, and no revenues will likely be available until, and unless, the new products are clinically tested, approved by the FDA or other regulatory agencies and successfully marketed, either by us or a marketing partner, an outcome which we are not able to guarantee.

It is uncertain that we will have access to future capital.

We do not expect to generate positive cash flow from operations for at least the next several years. As a result, substantial additional equity or debt financing for research and development or clinical development will be required to fund our activities. Although we have raised equity financing in the past, including in April 2004 and July 2005, we cannot be certain that we will be able to continue to obtain such financing on favorable or satisfactory terms, if at all, or that it will be sufficient to meet our cash requirements. Any additional equity financing could result in substantial dilution to stockholders, and debt financing, if available, would likely involve restrictive covenants that preclude us from making distributions to stockholders and taking other actions beneficial to stockholders. If adequate funds are not available, we may be required to delay or reduce the scope of our drug development program or attempt to continue development by entering into arrangements with collaborative partners or others that may require us to relinquish some or all of our rights to proprietary drugs. The inability to adequately and timely fund our capital requirements would have a material adverse effect on us.

We are not certain that we will be successful in the development of our drug candidates.

The successful development of any new drug is highly uncertain and is subject to a number of significant risks. Our drug candidates, all of which are in a development stage, require significant, time-consuming and costly development, testing and regulatory clearance. This process typically takes several years and can require substantially more time. Risks include, among others, the possibility that a drug candidate will (i) be found to be ineffective or unacceptably toxic, (ii) have unacceptable side effects, (iii) fail to receive necessary regulatory clearances, (iv) not achieve broad market acceptance, (v) be subject to competition from third parties who may market equivalent or superior products, (vi) be

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affected by third parties holding proprietary rights that will preclude us from marketing a drug product, or (vii) not be able to be manufactured by manufacturers in a timely manner in accordance with required standards of quality. There can be no assurance that the development of our drug candidates will demonstrate the efficacy and safety of our drug candidates as therapeutic drugs, or, even if demonstrated, that there will be sufficient advantages to their use over other drugs or treatments so as to render the drug product commercially viable. In the past, we have been faced with limiting the scope and/or delaying the launch of preclinical and clinical drug trials due to limited cash and personnel resources. We have also chosen to terminate licenses of some drug candidates that were not showing sufficient promise to justify continued expense and development. In the event that we are not successful in developing and commercializing one or more drug candidates, investors are likely to realize a loss of their entire investment.

We have been delayed at certain times in the past in the development of our drug products by limited funding. In addition, if certain of our scientific and technical personnel resigned at or about the same time, the development of our drug products would probably be delayed until new personnel were hired and became familiar with the development programs.

Positive results in preclinical and clinical trials do not ensure that future clinical trials will be successful or that drug candidates will receive all necessary regulatory approvals for the marketing, distribution or sale of such drug candidates.

Success in preclinical and clinical trials does not ensure that large-scale clinical trials will be successful. Clinical results are frequently susceptible to varying interpretations that may delay, limit or prevent regulatory approvals. The length of time necessary to complete clinical trials and to submit an application for marketing approval for a final decision by a regulatory authority varies significantly and may be difficult to predict. In the past, we have terminated licenses of drug candidates when our preclinical trials did not support or verify earlier preclinical data. There is a significant risk that any of our drug candidates could fail to show satisfactory results in continued trials, and would not justify further development.

We will face intense competition from other companies in the pharmaceutical industry.

We are engaged in a segment of the pharmaceutical industry that is highly competitive and rapidly changing. If successfully developed and approved, any of our drug candidates will likely compete with several existing therapies. CoFactor, our leading drug candidate, would likely compete against a well-established product, leucovorin. In addition, there are numerous companies with a focus in oncology and/or anti-viral therapeutics that are pursuing the development of pharmaceuticals that target the same diseases as are targeted by the drugs being developed by us. We anticipate that we will face intense and increasing competition in the future as new products enter the market and advanced technologies become available. We cannot assure that existing products or new products developed by competitors will not be more effective, or more effectively marketed and sold than those we may market and sell. Competitive products may render our drugs obsolete or noncompetitive prior to our recovery of development and commercialization expenses.

Many of our likely competitors such as Merck and Pfizer, will also have significantly greater financial, technical and human resources and will likely be better equipped to develop, manufacture and market products. In addition, many of these competitors have extensive experience in preclinical testing and clinical trials, obtaining FDA and other regulatory approvals and manufacturing and marketing pharmaceutical products. A number of these competitors also have products that have been approved or are in late-stage development and operate large, well-funded research and development programs. Smaller companies may also prove to be significant competitors, particularly through collaborative arrangements with large pharmaceutical and biotechnology companies. Furthermore, academic institutions, government agencies and other public and private research organizations are becoming increasingly aware of the commercial value of their inventions and are actively seeking to commercialize the technology they have

developed. Companies such as Gilead, Roche and GlaxoSmithKline all have

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drugs in various stages of development that could become competitors. Accordingly, competitors may succeed in commercializing products more rapidly or effectively than us, which would have a material adverse effect on us.

There is no assurance that our products will have market acceptance.

Our success will depend in substantial part on the extent to which a drug product, if eventually approved for commercial distribution, achieves market acceptance. The degree of market acceptance will depend upon a number of factors, including (i) the receipt and scope of regulatory approvals, (ii) the establishment and demonstration in the medical community of the safety and efficacy of a drug product, (iii) the product's potential advantages over existing treatment methods and (iv) reimbursement policies of government and third party payors. We cannot predict or guarantee that physicians, patients, healthcare insurers or maintenance organizations, or the medical community in general, will accept or utilize any of our drug products.

The unavailability of health care reimbursement for any of our products will likely adversely impact our ability to effectively market such products and whether health care reimbursement will be available for any of our products is uncertain.

Our ability to commercialize our technology successfully will depend in part on the extent to which reimbursement for the costs of such products and related treatments will be available from government health administration authorities, private health insurers and other third-party payors. Significant uncertainty exists as to the reimbursement status of newly approved medical products. We cannot guarantee that adequate third-party insurance coverage will be available for us to establish and maintain price levels sufficient for realization of an appropriate return on our investments in developing new therapies. If we are successful in getting FDA approval for CoFactor, we will be competing against a generic drug, leucovorin, which has a lower cost and a long, established history of reimbursement. Receiving sufficient reimbursement for purchase costs of CoFactor will be necessary to make it cost effective and competitive versus the established drug, leucovorin. Government, private health insurers, and other third-party payors are increasingly attempting to contain health care costs by limiting both coverage and the level of reimbursement for new therapeutic products approved for marketing by the FDA. Accordingly, even if coverage and reimbursement are provided by government, private health insurers, and third-party payors for use of our products, the market acceptance of these products would be adversely affected if the amount of reimbursement available for the use of our therapies proved to be unprofitable for health care providers.

Uncertainties related to health care reform measures may affect our success.

There have been some federal and state proposals in the past to subject the pricing of health care goods and services, including prescription drugs, to government control and to make other changes to the U.S. health care system. None of the proposals seems to have affected any of the drugs in our programs. However, it is uncertain if future legislative proposals would be adopted that might affect the drugs in our programs or what actions federal, state, or private payors for health care treatment and services may take in response to any such health care reform proposals or legislation. Any such health care reforms could have a material adverse effect on the marketability of any drugs for which we ultimately require FDA approval.

Further testing of our drug candidates will be required and there is no assurance of FDA approval.

The FDA and comparable agencies in foreign countries impose substantial requirements upon the introduction of medical products, through lengthy and detailed laboratory and clinical testing procedures, sampling activities and other costly and time-consuming procedures. Satisfaction of these requirements typically takes several years or more and varies substantially based upon the type, complexity, and novelty of the product.

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The effect of government regulation and the need for FDA approval will delay marketing of new products for a considerable period of time, impose costly procedures upon our activities, and provide an advantage to larger companies that compete with us. There can be no assurance that the FDA or other regulatory approval for any products developed by us will be granted on a timely basis or at all. Any such delay in obtaining or failure to obtain, such approvals would materially and adversely affect the marketing of any contemplated products and the ability to earn product revenue. Further, regulation of manufacturing facilities by state, local, and other authorities is subject to change. Any additional regulation could result in limitations or restrictions on our ability to utilize any of our technologies, thereby adversely affecting our operations.

Human pharmaceutical products are subject to rigorous preclinical testing and clinical trials and other approval procedures mandated by the FDA and foreign regulatory authorities. Various federal and foreign statutes and regulations also govern or influence the manufacturing, safety, labeling, storage, record keeping and marketing of pharmaceutical products. The process of obtaining these approvals and the subsequent compliance with appropriate U.S. and foreign statutes and regulations are time-consuming and require the expenditure of substantial resources. In addition, these requirements and processes vary widely from country to country.

Among the uncertainties and risks of the FDA approval process are the following: (i) the possibility that studies and clinical trials will fail to prove the safety and efficacy of the drug, or that any demonstrated efficacy will be so limited as to significantly reduce or altogether eliminate the acceptability of the drug in the marketplace, (ii) the possibility that the costs of development, which can far exceed the best of estimates, may render commercialization of the drug marginally profitable or altogether unprofitable, and (iii) the possibility that the amount of time required for FDA approval of a drug may extend for years beyond that which is originally estimated. In addition, the FDA or similar foreign regulatory authorities may require additional clinical trials, which could result in increased costs and significant development delays. Delays or rejections may also be encountered based upon changes in FDA policy and the establishment of additional regulations during the period of product development and FDA review. Similar delays or rejections may be encountered in other countries.

Our success will depend on licenses and proprietary rights we receive from other parties, and on any patents we may obtain.

Our success will depend in large part on our ability and our licensors' ability to (i) maintain license and patent protection with respect to their drug products, (ii) defend patents and licenses once obtained, (iii) maintain trade secrets, (iv) operate without infringing upon the patents and proprietary rights of others and (v) obtain appropriate licenses to patents or proprietary rights held by third parties if infringement would otherwise occur, both in the U.S. and in foreign countries. We have obtained licenses to patents and other proprietary rights from the University of Southern California.

The patent positions of pharmaceutical companies, including ours, are uncertain and involve complex legal and factual questions. There is no guarantee that we or our licensors have or will develop or obtain the rights to products or processes that are patentable, that patents will issue from any of the pending applications or that claims allowed will be sufficient to protect the technology licensed to us. In addition, we cannot be certain that any patents issued to or licensed by us will not be challenged, invalidated, infringed or circumvented, or that the rights granted thereunder will provide competitive disadvantages to us.

Litigation, which could result in substantial cost, may also be necessary to enforce any patents to which we have rights, or to determine the scope, validity and unenforceability of other parties' proprietary rights, which may affect our rights. U.S. patents carry a presumption of validity and generally can be invalidated only through clear and convincing evidence. There can be no assurance that our licensed patents would be held valid by a court or administrative body or that an alleged infringer would be found to be infringing. The mere uncertainty resulting from the institution and

continuation of any

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technology-related litigation or interference proceeding could have a material adverse effect on us pending resolution of the disputed matters.

We may also rely on unpatented trade secrets and know-how to maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with employees, consultants and others. There can be no assurance that these agreements will not be breached or terminated, that we will have adequate remedies for any breach, or that trade secrets will not otherwise become known or be independently discovered by competitors.

Our license agreements can be terminated in the event of a breach.

The license agreements pursuant to which we license our core technologies for our potential drug products permit the licensors, to terminate the agreement under certain circumstances, such as the failure by us to use our reasonable best efforts to commercialize the subject drug or the occurrence of any other uncured material breach by us. The license agreements also provide that the licensor is primarily responsible for obtaining patent protection for the technology licensed, and we are required to reimburse the licensor for the costs it incurs in performing these activities. The license agreements also require the payment of specified royalties. Any inability or failure to observe these terms or pay these costs or royalties could result in the termination of the applicable license agreement in certain cases. In the past, we have let lapse certain licenses for drug candidates when we determined that the expense and risk of continued development outweighed the likely benefits of that continued development. The termination of any license agreement could have a material adverse effect on us.

Protecting our proprietary rights is difficult and costly.

The patent positions of pharmaceutical and biotechnology companies can be highly uncertain and involve complex legal and factual questions. Accordingly, we cannot predict the breadth of claims allowed in these companies' patents or whether we may infringe or be infringing these claims. Although we have not been notified of any patent infringement, nor notified others of patent infringement, such patent disputes are common and could preclude the commercialization of our products. Patent litigation is costly in its own right and could subject us to significant liabilities to third parties. In addition, an adverse decision could force us to either obtain third-party licenses at a material cost or cease using the technology or product in dispute.

We may be unable to retain skilled personnel and maintain key relationships.

The success of our business depends, in large part, on our ability to attract and retain highly qualified management, scientific and other personnel, and on our ability to develop and maintain important relationships with leading research institutions and consultants and advisors. Competition for these types of personnel and relationships is intense from numerous pharmaceutical and biotechnology companies, universities and other research institutions. We are currently dependent upon our scientific staff, which has a deep background in our drug candidates and the ongoing preclinical and clinical trials. Recruiting and retaining senior employees with relevant drug development experience in oncology and anti-viral therapeutics is costly and time-consuming. There can be no assurance that we will be able to attract and retain such individuals on an uninterrupted basis and on commercially acceptable terms, and the failure to do so could have a material adverse effect on us by significantly delaying one or more of our drug development programs. The loss of any of our senior executive officers, including our chief executive officer and chief financial officer, in particular, could have a material adverse effect on the company and the market for our common stock, particularly if such loss was abrupt or unexpected. All of our employees are employed on an at-will basis under offer letters. We do not have non-competition agreements with any of our employees.

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We currently have no sales capability, and limited marketing capability.

We currently do not have sales personnel. We have limited marketing and business development personnel. We will have to develop a sales force, or rely on marketing partners or other arrangements with third parties for the marketing, distribution and sale of any drug product which is ready for distribution. There is no guarantee that we will be able to establish marketing, distribution or sales capabilities or make arrangements with third parties to perform those activities on terms satisfactory to us, or that any internal capabilities or third party arrangements will be cost-effective.

In addition, any third parties with which we may establish marketing, distribution or sales arrangements may have significant control over important aspects of the commercialization of a drug product, including market identification, marketing methods, pricing, composition of sales force and promotional activities. There can be no assurance that we will be able to control the amount and timing of resources that any third party may devote to our products or prevent any third party from pursuing alternative technologies or products that could result in the development of products that compete with, or the withdrawal of support for, our products.

We do not have manufacturing capabilities and may not be able to efficiently develop manufacturing capabilities or contract for such services from third parties on commercially acceptable terms.

We do not have any manufacturing capacity. When and if required, we will seek to establish relationships with third-party manufacturers for the manufacture of clinical trial material and the commercial production of drug products as we have with our current manufacturing partners. There can be no assurance that we will be able to establish relationships with third-party manufacturers on commercially acceptable terms or that third-party manufacturers will be able to manufacture a drug product on a cost-effective basis in commercial quantities under good manufacturing practices mandated by the FDA or other regulatory matters.

The dependence upon third parties for the manufacture of products may adversely affect future costs and the ability to develop and commercialize a drug product on a timely and competitive basis. Further, there can be no assurance that manufacturing or quality control problems will not arise in connection with the manufacture of our drug products or that third party manufacturers will be able to maintain the necessary governmental licenses and approvals to continue manufacturing such products. Any failure to establish relationships with third parties for our manufacturing requirements on commercially acceptable terms would have a material adverse effect on us.

We are dependent in part on third parties for drug development and research facilities.

We do not possess research and development facilities necessary to conduct all of our drug development activities. We engage consultants and independent contract research organizations to design and conduct clinical trials in connection with the development of our drugs. As a result, these important aspects of a drug's development will be outside our direct control. In addition, there can be no assurance that such third parties will perform all of their obligations under arrangements with us or will perform those obligations satisfactorily.

In the future, we anticipate that we will need to obtain additional or increased product liability insurance coverage and it is uncertain that such increased or additional insurance coverage can be obtained on commercially reasonable terms.

Our business will expose us to potential product liability risks that are inherent in the testing, manufacturing and marketing of pharmaceutical products. There can be no assurance that product liability claims will not be asserted against us. We intend to obtain additional limited product liability insurance for our clinical trials, directly or through our marketing development partners or contract research organization (CRO) partners, when they begin in the U.S. and to expand our insurance coverage if and when we begin marketing commercial products. However, there can be

no assurance

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that we will be able to obtain product liability insurance on commercially acceptable terms or that we will be able to maintain such insurance at a reasonable cost or in sufficient amounts to protect against potential losses. A successful product liability claim or series of claims brought against us could have a material adverse effect on us.

The market price of our shares, like that of many biotechnology companies, is highly volatile.

Market prices for our common stock and the securities of other medical and biomedical technology companies have been highly volatile and may continue to be highly volatile in the future. Factors such as announcements of technological innovations or new products by us or our competitors, government regulatory action, litigation, patent or proprietary rights developments, and market conditions for medical and high technology stocks in general can have a significant impact on any future market for our common stock.

If we cannot satisfy AMEX's listing requirements, it may delist our common stock and we may not have an active public market for our common stock. The absence of an active trading market would likely make the common stock an illiquid investment.

Our common stock is quoted on the American Stock Exchange. To continue to be listed, we are required to maintain shareholders equity of \$6,000,000 among other requirements. We do not satisfy that requirement as of December 31, 2005. The AMEX may consider delisting our common stock and suspend trading in the common stock in which case our common stock would likely trade in the over-the-counter market in the so-called "pink sheets" or, if available, the OTC Bulletin Board Service. As a result, an investor would likely find it significantly more difficult to dispose of, or to obtain accurate quotations as to the value of, our shares. Our ability to raise capital would most likely also be impaired due to our ineligibility to file resale registration statements under the Securities Act.

If our common stock is delisted, it may become subject to the SEC's penny stock rules and more difficult to sell.

SEC rules require brokers to provide information to purchasers of securities traded at less than \$5.00 and not traded on a national securities exchange or quoted on the Nasdaq Stock Market. If our common stock becomes a "penny stock" that is not exempt from these SEC rules, these disclosure requirements may have the effect of reducing trading activity in our common stock and making it more difficult for investors to sell. The rules require a broker-dealer to deliver a standardized risk disclosure document prepared by the SEC that provides information about penny stocks and the nature and level of risks in the penny market. The broker must also give bid and offer quotations and broker and salesperson compensation information to the customer orally or in writing before or with the confirmation. The SEC rules also require a broker to make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction before a transaction in a penny stock.

Changes in laws and regulations that affect the governance of public companies has increased our operating expenses and will continue to do so.

Recently enacted changes in the laws and regulations affecting public companies, including the provisions of the Sarbanes-Oxley Act of 2002 and the listing requirements for American Stock Exchange have imposed new duties on us and on our executives, directors, attorneys and independent accountants. In order to comply with these new rules, we have hired and expect to hire additional personnel and use additional outside legal, accounting and advisory services, which have increased and are likely to continue increasing our operating expenses. In particular, we expect to incur additional administrative expenses as we implement Section 404 of the Sarbanes-Oxley Act, which requires management to extensively evaluate and report on, and our independent registered public accounting firm to attest to, our internal controls. For example, we have incurred significant expenses, and expect to incur additional expenses, in connection with the evaluation, implementation, documentation and

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testing of our existing and newly implemented control systems. Management time associated with these compliance efforts necessarily reduces time available for other operating activities, which could adversely affect operating results. If we are unable to achieve full and timely compliance with these regulatory requirements, we could be required to incur additional costs, expend additional money and management time on additional remedial efforts which could adversely affect our results of operations.

Failure to implement effective control systems, or failure to complete our assessment of the effectiveness of our internal control over financial reporting, may subject us to regulatory sanctions and could result in a loss of public confidence, which could harm our operating results.

Pursuant to Section 404 of the Sarbanes-Oxley Act, beginning with our fiscal year ended December 31, 2005, we are required to include in our annual report our assessment of the effectiveness of our internal control over financial reporting. Furthermore, our independent registered public accounting firm is required to issue an opinion on whether our assessment of the effectiveness of our internal control over financial reporting is fairly stated in all material respects and separately report on whether it believes we maintained, in all material respects, effective internal control over financial reporting as of December 31, 2005.

If we fail to remedy any material weaknesses which are uncovered, fail to timely complete our assessment, or if our independent registered public accounting firm cannot timely attest to our assessment, we could be subject to regulatory sanctions and a loss of public confidence in our internal control. In addition, any failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our operating results or cause us to fail to timely meet our regulatory reporting obligations.

We have engaged in and may continue to engage in further expansion through mergers and acquisitions, which could negatively affect our business and earnings.

We have engaged in and may continue to engage in expansion through mergers and acquisitions. There are risks associated with such expansion. These risks include, among others, incorrectly assessing the asset quality of a prospective merger partner, encountering greater than anticipated costs in integrating acquired businesses, facing resistance from customers or employees, and being unable to profitably deploy assets acquired in the transaction. Additional country- and region-specific risks are associated with transactions outside the United States. To the extent we issue capital stock in connection with additional transactions, these transactions and related stock issuances may have a dilutive effect on earnings per share and share ownership.

Our earnings, financial condition, and prospects after a merger or acquisition depend in part on our ability to successfully integrate the operations of the acquired company. We may be unable to integrate operations successfully or to achieve expected cost savings. Any cost savings which are realized may be offset by losses in revenues or other charges to earnings.

Description Of Capital Stock

Our authorized capital stock consists of 1,000,000 shares of Preferred Stock, \$0.01 par value, and 200,000,000 shares of common stock, \$0.001 par value.

Common Stock

Our common stock is quoted on the American Stock Exchange LLC under the symbol ANX.

We have never paid cash dividends on any of our securities and do not currently expect to pay any cash dividends on our securities in the foreseeable future. There are no restrictions that limit our ability to pay dividends on our common stock or that are likely to do so in the future other than restrictions under the Delaware General Corporation Law and other applicable law.

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As of May 3, 2006, there were 71,649,833 shares of common stock issued and outstanding which were held of record by approximately 7,021 stockholders.

The holders of our common stock are entitled to one vote per share held of record on all matters submitted to a vote of the stockholders. Our certificate of incorporation does not provide for cumulative voting in the election of directors. Subject to preferences that may be applicable to any outstanding preferred stock, the holders of common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by our Board of Directors out of funds legally available for that purpose. In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior distribution rights of preferred stock, if any, then outstanding. Holders of our common stock have no preemptive or other subscription or conversion rights. There are no redemption or sinking fund provisions applicable to our common stock.

In the event of our voluntary or involuntary liquidation, dissolution or winding up, the owners of shares of common stock will be entitled to share equally in any assets available for distribution after the payment in full of all debts and distributions and after the owners of any of our outstanding preferred stock have received their liquidation preferences in full.

American Stock Transfer & Trust Company is our stock transfer agent and it maintains all our stockholder records. If you have questions regarding ADVENTRX stock you own, stock transfers, address or name changes, lost stock certificates, or duplicate mailings, please contact American Stock Transfer & Trust Transfer Company directly at the address below. If your shares are held with a stockbroker, please contact your broker.

American Stock Transfer & Trust Company
59 Maiden Lane, Plaza Level
New York, NY 10038
(800) 937-5449
www.amstock.com
email address - info@amstock.com

Preferred Stock

Our Board of Directors is authorized, without action by the stockholders, to issue preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges may include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series, all or any of which may be greater than the rights of the common stock.

Use of Proceeds

We intend to add the net proceeds from the sale of the common stock to our general funds to be used to fund research and development and clinical trials and for general corporate purposes, which may include investment in subsidiaries, working capital, capital expenditures, repayment of short-term borrowings, refinancing of existing long-term debt, acquisitions and other business opportunities.

Plan Of Distribution

We may sell the common stock through one or more of the following ways:

directly to purchasers;

to or through one or more underwriters or dealers; or

through agents.

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A prospectus supplement with respect to a particular issuance of securities will set forth the terms of the offering of those securities, including the following:

name or names of any underwriters, dealers or agents;

the purchase price of the securities and the estimated amount we will receive;

underwriting discounts and commissions; and

any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers.

If we use underwriters in the sale, the underwriters will acquire the securities for their own account and they may resell them from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriting syndicates represented by one or more managing underwriters or one or more independent firms acting as underwriters may offer the securities to the public. In connection with the sale of securities, we may compensate the underwriters in the form of underwriting discounts or commissions. The purchasers of the securities for whom the underwriters may act as agent may also pay them commissions. Underwriters may sell the securities to or through dealers, and these dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for whom they may act as agents. Unless otherwise set forth in the applicable prospectus supplement, the obligations of any underwriters to purchase the securities will be subject to conditions precedent, and the underwriters will be obligated to purchase all of the securities if any are purchased.

If we use dealers in the sale of the securities, we will sell the securities to the dealers as principals. The dealers may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. The applicable prospectus supplement will name any dealer, who may be deemed to be an underwriter, as that term is defined in the Securities Act, involved in the offer or sale of securities, and set forth any commissions or discounts we grant to the dealer.

If we use agents in the sales of the securities, the agents may solicit offers to purchase the securities from time to time. Any of these agents, who may be deemed to be an underwriter, as that term is defined in the Securities Act, involved in the offer or sale of the securities will be named, and any commissions payable by us to such agent set forth, in the applicable prospectus supplement. Any agent will be acting on a reasonable efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis.

We may also sell securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to resales. The terms of those sales would be described in the prospectus supplement.

If the prospectus supplement so indicates, we will authorize agents, underwriters or dealers to solicit offers to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to stock purchase or delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth the commission payable for solicitation of the contracts.

Agents, dealers and underwriters may be entitled under agreements with us to indemnification against some civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the agents, dealers or underwriters may be required to make. Agents, dealers and underwriters or their affiliates may engage in

transactions with, or perform services for, us or our subsidiaries for customary compensation.

If indicated in the applicable prospectus supplement, one or more firms may offer and sell securities in connection with a remarketing upon their purchase, in accordance with their terms, acting as principals for their own accounts or as our agents. Any remarketing firm will be identified and the terms of its agreement, if any, with us will be described in the applicable prospectus supplement. We may be

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obligated to indemnify the remarketing firm against some liabilities, including liabilities under the Securities Act, and the remarketing firm may engage in transactions with or perform services for us or our subsidiaries for customary compensation.

Any underwriter may engage in over-allotment, stabilizing and syndicate short covering transactions and penalty bids in accordance with Regulation M under the Securities Exchange Act of 1934, as amended. Over-allotment involves sales in excess of the offering size, which creates a short position. Stabilizing transactions involve bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Syndicate short covering transactions involve purchases of securities in the open market after the distribution has been completed in order to cover syndicate short positions. Penalty bids permit the underwriters to reclaim selling concessions from dealers when the securities originally sold by the dealers are purchased in covering transactions to cover syndicate short positions. These transactions may cause the price of the securities sold in an offering to be higher than it would otherwise be. These transactions, if commenced, may be discontinued by the underwriters at any time.

The prospectus supplement relating to each offering will set forth the anticipated date of delivery of the securities.

Legal Matters

The validity of the issuance of shares of common stock we are offering under this prospectus will be passed upon for us by Bingham McCutchen LLP, San Francisco, California.

Experts

Our consolidated balance sheets as of December 31, 2005 and 2004, and the related consolidated statements of operations, stockholders' equity (deficit) and cash flows for each of the years in the three-year period ended December 31, 2005, and for the period from June 12, 1996 (date of inception) through December 31, 2005, and management's assessment of the effectiveness of internal control over financial reporting and the effectiveness of our internal control over financial reporting as of December 31, 2005, have been incorporated by reference in this prospectus and in the registration statement in reliance on the reports of J.H. Cohn LLP, independent registered public accounting firm, given upon the authority of that firm as experts in accounting and auditing. The report of J.H. Cohn LLP notes that the consolidated financial statements for the period from June 12, 1996 (date of inception) through December 31, 2001, were audited by other auditors. J.H. Cohn LLP's opinion insofar as it relates to the period from June 12, 1996 to December 31, 2001, is based solely on the report of such other auditors.

The financial statements of SD Pharmaceuticals, Inc. as of December 31, 2005 and 2004 and for the year ended December 31, 2005 and for the period from June 16, 2004 (date of inception) to December 31, 2004 have been incorporated by reference in this prospectus and in the registration statement in reliance on the report, which includes an explanatory paragraph relating to the ability of SD Pharmaceuticals, Inc. to continue as a going concern, of J.H. Cohn LLP, independent registered public accounting firm, given upon the authority of that firm as experts in accounting and auditing.

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