

TITAN PHARMACEUTICALS INC
Form S-3
February 08, 2007
Table of Contents

As Filed With The Securities and Exchange Commission on February 8, 2007

Registration No. 333-_____

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

TITAN PHARMACEUTICALS, INC.

(Exact Name Of Registrant As Specified In Its Charter)

Delaware
(State Or Other Jurisdiction Of

Incorporation Or Organization)

94-3171940
(I.R.S. Employer

Identification Number)

400 Oyster Point Blvd.

South San Francisco, California 94080

(650) 244-4990

(Address, Including Zip Code, and Telephone Number, Including Area Code, of

Registrant's Principal Executive Offices)

Louis R. Bucalo, M.D., Chairman, President and Chief Executive Officer

Edgar Filing: TITAN PHARMACEUTICALS INC - Form S-3

Titan Pharmaceuticals, Inc.

400 Oyster Point Blvd., Suite 505

South San Francisco, California 94080

(650) 244-4990

(Name, Address, Including Zip Code, and Telephone Number, Including
Area Code, of Agent For Service)

Copies To:

Fran Stoller, Esq.

Loeb & Loeb LLP

345 Park Avenue

New York, New York 10154

(212) 407-4000

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.

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

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

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

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

If this form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. "

If this form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. "

CALCULATION OF REGISTRATION FEE

| Title of Each Class of Securities to be Registered | Amount to be Registered (1) | Proposed Maximum Aggregate | Proposed Maximum | Amount of Registration Fee(3) |
|---|------------------------------------|-----------------------------------|-------------------------|--------------------------------------|
|---|------------------------------------|-----------------------------------|-------------------------|--------------------------------------|

Edgar Filing: TITAN PHARMACEUTICALS INC - Form S-3

| | Offering Price per Security(1)(2) | Aggregate Offering Price(1) | |
|-----------------|-----------------------------------|-----------------------------|---------|
| Common Stock | | | |
| Preferred Stock | | | |
| Total | \$50,000,000 | \$50,000,000 | \$5,350 |

- (1) An indeterminate number of shares of common stock and shares of preferred stock that may from time to time be issued at indeterminate prices are being registered hereunder, but in no event will the aggregate maximum offering price of all securities sold hereunder exceed \$50,000,000. The shares of common stock and preferred stock may be sold separately or together.
- (2) The proposed maximum aggregate offering price per security has been omitted pursuant to General Instruction II.D of Form S-3 and will be determined from time to time by the registrant in connection with any sale of shares of common stock and/or preferred stock registered hereunder.
- (3) The registration fee has been calculated in accordance with Rule 457(o) under the Securities Act of 1933.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

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

Subject to Completion, Dated February 8, 2007

Prospectus

\$50,000,000

TITAN PHARMACEUTICALS, INC.

Common Stock

Preferred Stock

We may issue our common stock and/or preferred stock, from time to time, in one or more offerings. We will provide the specific prices and other terms of these offerings in one or more supplements to this prospectus. Any supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement, together with the additional information described under the heading **Incorporation of Certain Documents by Reference**, carefully before you invest. This prospectus may not be used to consummate a sale of securities unless accompanied by a prospectus supplement.

Our common stock is traded on the American Stock Exchange under the symbol **TTP**. On January 31, 2007, the closing price of the common stock was \$3.00.

An investment in our securities involves a high degree of risk. See Risk Factors beginning on page 3.

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

The date of this prospectus is _____, 2007

Table of Contents

TABLE OF CONTENTS

| | |
|---|----|
| <u>About This Prospectus</u> | 1 |
| <u>Summary</u> | 2 |
| <u>Risk Factors</u> | 3 |
| <u>Special Note Regarding Forward-Looking Information</u> | 9 |
| <u>Use of Proceeds</u> | 10 |
| <u>Description of Securities</u> | 12 |
| <u>Plan of Distribution</u> | 14 |
| <u>Incorporation of Certain Documents By Reference</u> | 15 |
| <u>Where You Can Find More Information</u> | 16 |
| <u>Legal Matters</u> | 16 |
| <u>Experts</u> | 17 |

No dealer, sales representative or any other person has been authorized to give any information or to make any representations in connection with this offering other than those contained in or incorporated by reference in this prospectus, as supplemented or amended from time to time by us, and, if given or made, such information or representations must not be relied upon as having been authorized by us. This prospectus does not constitute an offer to sell, or a solicitation of an offer to buy, nor shall there be any sale of these securities by any person in any jurisdiction in which such an offer, solicitation or sale would be unlawful. Neither the delivery of this prospectus nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in our affairs since the date of this prospectus or that the information contained in this prospectus is correct as of any time subsequent to the date of this prospectus.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission using a shelf registration process. Under this shelf registration process, we may from time to time offer and sell, in one or more offerings, any or all of the securities described in this prospectus, separately or together, up to an aggregate initial offering price of \$50,000,000. This prospectus provides you with a general description of our securities being offered. When we issue the shares being offered by this prospectus, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the heading Incorporation of Certain Documents by Reference and Where You Can Find More Information.

Table of Contents

SUMMARY

We are a biopharmaceutical company developing proprietary therapeutics for the treatment of central nervous system (CNS) disorders, cardiovascular disease, bone disease and other disorders. Our product development programs focus primarily on large pharmaceutical markets with significant unmet medical needs and commercial potential. We are focused primarily on clinical development of the following products:

Probuphine: for the treatment of opioid dependence

Iloperidone: for the treatment of schizophrenia and related psychotic disorders (partnered with Vanda Pharmaceuticals, Inc.)

Spheramine: for the treatment of advanced Parkinson's disease (partnered with Bayer-Schering Pharma AG)

DITPA: for the treatment of cardiovascular disease

Gallium maltolate: for the treatment of bone related diseases, chronic bacterial infections and cancer

We are directly developing our product candidates and also utilizing corporate partnerships, including a collaboration with (i) Bayer-Schering Pharma AG, Germany (Bayer-Schering) for the development of Spheramine to treat Parkinson's disease, and (ii) Vanda Pharmaceuticals for the development of iloperidone for the treatment of schizophrenia and related psychotic disorders. We also utilize grants from government agencies to fund development of our product candidates. Our products are at various stages of development and may not be successfully developed or commercialized. We do not currently have any products being commercially sold. Our proposed products will require significant further capital expenditures, development, testing, and regulatory clearances prior to commercialization. We may experience unanticipated problems relating to product development and cannot predict whether we will successfully develop and commercialize any products.

We were incorporated in Delaware in February 1992. Our principal executive offices are located at 400 Oyster Point Blvd., Suite 505, South San Francisco, California 94080, and our telephone number is (650) 244-4990.

Table of Contents

RISK FACTORS

An investment in our securities involves various risks. You should carefully consider the following risk factors and other information incorporated by reference herein before deciding to purchase shares of our securities.

We have a history of operating losses and may never be profitable. From our inception through September 30, 2006, we had an accumulated deficit of approximately \$221 million. We will continue to incur losses for the foreseeable future as a result of the various costs associated with our research, development, financial, administrative, regulatory and management activities. We may never achieve or sustain profitability.

Our products are at various stages of development and may not be successfully developed or commercialized. We do not currently have any products being sold on the commercial market. Our proposed products are at various stages of development, but all will require significant further capital expenditures, development, testing, and regulatory clearances prior to commercialization. Of the large number of drugs in development, only a small percentage successfully complete the U.S. Food and Drug Administration (FDA) regulatory approval process and are commercialized. We are subject to the risk that some or all of our proposed products:

will be found to be ineffective or unsafe;

will not receive necessary regulatory clearances;

will be unable to get to market in a timely manner;

will not be capable of being produced in commercial quantities at reasonable costs;

will not be successfully marketed; or

will not be widely accepted by the physician community.

To date, we have experienced setbacks in some of our product development efforts. For example, study results of a study evaluating the EKG profile of patients taking iloperidone lead to a significant delay in the development of that product, a vaccine product formerly under development failed to meet the study's primary endpoint and a study of one of our products in a combination treatment was discontinued as a result of an interim safety analysis.

In addition, our Spheramine product is based upon new technology which may be risky and fail to show efficacy. We are not aware of any other cell therapy products for CNS disorders that have been approved by the FDA or any similar foreign government entity and cannot assure you that we will be able to obtain the required regulatory approvals for any products based upon such technology.

We may continue to experience unanticipated problems relating to product development, testing, regulatory compliance, manufacturing, marketing and competition, and our costs and expenses could exceed current estimates. We cannot predict whether we will successfully develop and commercialize any products.

We must comply with extensive government regulations. Our research, development, preclinical and clinical trial activities and the manufacture and marketing of any products that we may successfully develop are subject to an extensive regulatory approval process by the FDA and other regulatory agencies in the U.S. and other countries. The process of obtaining required regulatory approvals for drugs,

Table of Contents

including conducting preclinical and clinical testing to determine safety and efficacy, is lengthy, expensive and uncertain. Even after such time and expenditures, we may not obtain necessary regulatory approvals for clinical testing or for the manufacturing or marketing of any products. We have limited experience in obtaining FDA approval. Regulatory approval may entail limitations on the indicated usage of a drug, which may reduce the drug's market potential. Even if regulatory clearance is obtained, post-market evaluation of the products, if required, could result in restrictions on a product's marketing or withdrawal of the product from the market, as well as possible civil and criminal sanctions. Our regulatory submissions may be delayed or we may cancel plans to make submissions for proposed products for a number of reasons, including:

unanticipated preclinical testing or clinical trial reports;

failure to reach agreement with the FDA regarding study protocols;

changes in regulations or the adoption of new regulations;

unanticipated enforcement of existing regulations;

unexpected technological developments; and

developments by our competitors.

For example, we have initiated a Phase III clinical study while we continue to have discussions with the FDA relating to finalizing the Probuphine development program. If our corporate partners and we are unable to obtain regulatory approval for our products, our business will be seriously harmed.

In addition, we and our collaborative partners may be subject to regulation under state and federal laws, including requirements regarding occupational safety, laboratory practices, environmental protection and hazardous substance control, and may be subject to other local, state, federal and foreign regulation. We cannot predict the impact of such regulation on us, although it could seriously harm our business.

We face risks associated with third parties conducting preclinical studies and clinical trials of our products as well as our dependence on third parties to manufacture any products that we may successfully develop. We depend on third-party laboratories and medical institutions to conduct preclinical studies and clinical trials for our products and other third-party organizations to perform data collection and analysis, all of which must maintain both good laboratory and good clinical practices. We will also depend upon third party manufacturers for the production of any products we may successfully develop to comply with current Good Manufacturing Practices of the FDA, which are similarly outside our direct control. If third party laboratories and medical institutions conducting studies of our products fail to maintain both good laboratory and clinical practices, the studies could be delayed or have to be repeated. Similarly, if the manufacturers of any products we develop in the future fail to comply with current Good Manufacturing Practices of the FDA, we may be forced to cease manufacturing such product until we found another third party to manufacture the product.

We face many uncertainties relating to our human clinical trial strategy and results. In order to obtain the regulatory approvals that we need to commercialize any of our product candidates, we must demonstrate that each product candidate is safe and effective for use in humans for each target indication. The results of preclinical and Phase I and Phase II clinical studies are not necessarily indicative of whether a product will demonstrate safety and efficacy in large patient populations. Although two of our product candidates have reached Phase III human clinical trials, results from the studies have not supported a regulatory filing. Several other product candidates are currently advancing into Phase II

Table of Contents

human clinical trials. We may not be able to demonstrate that any of our product candidates will be safe or effective in advanced trials that involve larger numbers of patients. Clinical trials are subject to oversight by institutional review boards and the FDA and:

must be conducted in conformance with the FDA's good laboratory practice regulations;

must meet requirements for institutional review board oversight;

must meet requirements for informed consent;

must meet requirements for good clinical practices;

are subject to continuing FDA oversight; and

may require large numbers of test subjects.

As described above in our products are at various stages of development and may not be successfully developed or commercialized, our product development programs have in the past been and may in the future be curtailed, redirected or eliminated at any time for some or all of the following reasons:

unanticipated, negative or ambiguous results;

undesirable side effects which delay or extend the trials;

our inability to locate, recruit and qualify a sufficient number of patients for our trials;

regulatory delays or other regulatory actions;

difficulties in manufacturing sufficient quantities of the particular product candidate or any other components needed for our preclinical testing or clinical trials;

change in the focus of our development efforts; and

reevaluation of our clinical development strategy.

Accordingly, our clinical trials may not proceed as anticipated or otherwise adequately support our applications for regulatory approval.

We face risks associated with clinical trial liability claims in the event that the use or misuse of our product candidates results in personal injury or death. We face an inherent risk of clinical trial liability claims in the event that the use or misuse of our product candidates results in personal injury or death. Our clinical liability insurance coverage may not be sufficient to cover claims that may be made against us.

Edgar Filing: TITAN PHARMACEUTICALS INC - Form S-3

Any claims against us, regardless of their merit, could severely harm our financial condition, strain our management and other resources or destroy the prospects for commercialization of the product which is the subject of any such claim.

We may be unable to protect our patents and proprietary rights. Our future success will depend to a significant extent on our ability to:

obtain and keep patent protection for our products and technologies on an international basis;

Table of Contents

enforce our patents to prevent others from using our inventions;

maintain and prevent others from using our trade secrets; and

operate and commercialize products without infringing on the patents or proprietary rights of others.

We cannot assure you that our patent rights will afford any competitive advantages, and these rights may be challenged or circumvented by third parties. Further, patents may not be issued on any of our pending patent applications in the U.S. or abroad. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that before a potential product can be commercialized, any related patent may expire or remain in existence for only a short period following commercialization, reducing or eliminating any advantage of the patent. If we sue others for infringing our patents, a court may determine that such patents are invalid or unenforceable. Even if the validity of our patent rights is upheld by a court, a court may not prevent the alleged infringement of our patent rights on the grounds that such activity is not covered by our patent claims.

In addition, third parties may sue us for infringing their patents. In the event of a successful claim of infringement against us, we may be required to:

pay substantial damages;

stop using our technologies and methods;

stop certain research and development efforts;

develop non-infringing products or methods; and

obtain one or more licenses from third parties.

If required, we cannot assure you that we will be able to obtain such licenses on acceptable terms, or at all. If we are sued for infringement, we could encounter substantial delays in development, manufacture and commercialization of our product candidates. Any litigation, whether to enforce our patent rights or to defend against allegations that we infringe third party rights, will be costly, time consuming, and may distract management from other important tasks.

As is commonplace in the biotechnology and pharmaceutical industry, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. To the extent our employees are involved in research areas which are similar to those areas in which they were involved at their former employers, we may be subject to claims that such employees and/or we have inadvertently or otherwise used or disclosed the alleged trade secrets or other proprietary information of the former employers. Litigation may be necessary to defend against such claims, which could result in substantial costs and be a distraction to management even if we are successful in defending such claims.

We also rely in our business on trade secrets, know-how and other proprietary information. We seek to protect this information, in part, through the use of confidentiality agreements with employees, consultants, advisors and others. Nonetheless, we cannot assure you that those agreements will provide adequate protection for our trade secrets, know-how or other proprietary information and prevent their unauthorized use or disclosure. To the extent that consultants, key employees or other third parties apply technological information independently developed by them or by others to our proposed products, disputes may arise as to the proprietary rights to such information, which may not be resolved in our

Table of Contents

favor. Most of our consultants are employed by, or have consulting agreements with, third parties and any inventions discovered by such individuals generally will not become our property. There is a risk that other parties may breach confidentiality agreements or that our trade secrets may become known or independently discovered by competitors.

We face intense competition. Competition in the pharmaceutical and biotechnology industries is intense. We face, and will continue to face, competition from numerous companies that currently market, or are developing, products for the treatment of the diseases and disorders we have targeted. Many of these entities have significantly greater research and development capabilities, experience in obtaining regulatory approvals and manufacturing, marketing, financial and managerial resources than we have. We also compete with universities and other research institutions in the development of products, technologies and processes, as well as the recruitment of highly qualified personnel. Our competitors may succeed in developing technologies or products that are more effective than the ones we have under development or that render our proposed products or technologies noncompetitive or obsolete. In addition, our competitors may achieve product commercialization or patent protection earlier than we will.

We are dependent upon our key collaborative relationships and license and sponsored research agreements. As a company with limited resources, we rely significantly on the resources of third parties to conduct research and development and complete the regulatory approval process on our behalf. For example, our ability to ultimately derive revenues from iloperidone is almost entirely dependent upon Novartis and Vanda Pharmaceuticals conducting the Phase III trials and completing the regulatory approval process and implementing the marketing program necessary to commercialize iloperidone if the product is approved by the FDA. We are similarly dependent upon Bayer-Schering, our collaborator for the development and commercialization of Spheramine. Beyond our contractual rights, we cannot control the amount or timing of resources that any existing or future corporate partner devotes to product development and commercialization efforts for our product candidates. In addition, we also receive substantial government funding for our cancer immunotherapeutic programs. We cannot assure you that we will continue to receive such governmental funding. If such funds are no longer available, some of our current and future development efforts may be delayed or terminated. We depend on our ability to maintain existing collaborative relationships, to develop new collaborative relationships with third parties and to acquire or in-license additional products and technologies for the development of new product candidates. We cannot assure you that we will be able to maintain or develop new collaborative relationships, or that any such third-party products or technology will be available on acceptable terms, if at all.

Conflicts with our collaborators and strategic partners could result in strained relationships with them and impair our ability to enter into future collaborations, either of which could seriously harm our business. Our collaborators have, and may, to the extent permitted by our agreements, develop competing products, preclude us from entering into collaborations with their competitors or terminate their agreements with us prematurely. Moreover, disagreements could arise with our collaborators or strategic partners over rights to our intellectual property and our rights to share in any of the future revenues from products or technologies resulting from use of our technologies, or our activities in separate fields may conflict with other business plans of our collaborators.

We must meet payment and other obligations under our license and sponsored research agreements. Our license agreements relating to the in-licensing of technology generally require the payment of up-front license fees and royalties based on sales with minimum annual royalties, the use of due diligence in developing and bringing products to market, the achievement of funding milestones and, in some cases, the grant of stock to the licensor. Our sponsored research agreements generally require periodic payments on an annual or quarterly basis. Our failure to meet financial or other obligations under license or sponsored research agreements in a timely manner could result in the loss of our rights to proprietary technology or our right to have the applicable university or institution conduct research and development efforts.

Table of Contents

We may be dependent upon third parties to manufacture and market any products we successfully develop. We currently do not have the resources or capacity to commercially manufacture or directly market any of our proposed products. Collaborative arrangements may be pursued regarding the manufacture and marketing of any products that may be successfully developed. We may be unable to enter into additional collaborative arrangements to manufacture or market any proposed products or, in lieu thereof, establish our own manufacturing operations or sales force.

Healthcare reform and restrictions on reimbursements may limit our financial returns. Our ability or the ability of our collaborators to commercialize drug products, if any, may depend in part on the extent to which government health administration authorities, private health insurers and other organizations will reimburse consumers for the cost of these products. These third parties are increasingly challenging both the need for and the price of new drug products. Significant uncertainty exists as to the reimbursement status of newly approved therapeutics. Adequate third party reimbursement may not be available for our own or our collaborator's drug products to enable us or them to maintain price levels sufficient to realize an appropriate return on their and our investments in research and product development.

We may not be able to retain our key management and scientific personnel. As a company with a limited number of personnel, we are highly dependent on the services of Dr. Louis R. Bucalo, our Chairman, President and Chief Executive Officer, as well as the other principal members of our management and scientific staff. The loss of one or more of such individuals could substantially impair ongoing research and development programs and could hinder our ability to obtain corporate partners. Our success depends in large part upon our ability to attract and retain highly qualified personnel. We compete in our hiring efforts with other pharmaceutical and biotechnology companies, as well as universities and nonprofit research organizations, and we may have to pay higher salaries to attract and retain personnel.

We may need additional financing. At September 30, 2006, we had approximately \$17 million of cash, cash equivalents, and marketable securities. Our financing agreement with Cornell Capital Partners can provide us with up to an additional \$31.0 million, subject to shareholder approval for certain amounts under this agreement. It is likely that we will need to seek additional financing to continue our product development activities, and will be required to obtain substantial funding to commercialize any products other than iloperidone or Spheramine that we may successfully develop. Other than the Standby Equity Distribution Agreement with Cornell Capital Partners, we do not have any funding commitments or arrangements. If we are unable to generate adequate revenues, enter into a corporate collaboration, complete a debt or equity offering, or otherwise obtain sufficient financing when and if needed, we may be required to reduce, defer or discontinue one or more of our product development programs.

We will not be able to make a draw-down under the Standby Equity Distribution Agreement if we would be required to issue more than 6,475,287 shares of our common stock unless we obtain stockholder approval for such issuance. Under American Stock Exchange rules, we will not be able to issue more than 6,475,287 shares of our common stock in the aggregate to Cornell Capital Partners pursuant to the Standby Equity Distribution Agreement unless we obtain stockholder approval prior to the issuance of such greater number of shares. If we want to make a draw-down under the Standby Equity Distribution Agreement but have already issued the maximum number of shares and are unable to obtain stockholder approval for such issuance in a timely fashion, we will be forced to seek an alternate financing source. There can be no guarantee that alternative sources may be available. To date, we have issued 3,131,228 shares, including 80,793 shares related to commitment and structuring fees, and can only issue 3,344,059 additional shares without receipt of the required shareholder approval.

Table of Contents

Future sales of our common stock in the public market could adversely impact our stock price. Future sales of our common stock by existing stockholders pursuant to Rule 144 under the Securities Act, pursuant to an effective registration statement or otherwise, could decrease the price of our common stock.

Our stock price has been and will likely continue to be volatile. Our stock price has experienced substantial fluctuations and could continue to fluctuate significantly due to a number of factors, including:

variations in our anticipated or actual operating results;

sales of substantial amounts of our common stock;

announcements about us or about our competitors, including introductions of new products;

litigation and other developments relating to our patents or other proprietary rights or those of our competitors;

conditions in the pharmaceutical or biotechnology industries;

governmental regulation and legislation; and

change in securities analysts' estimates of our performance, or our failure to meet analysts' expectations.

The market price of our common stock may fluctuate in a way that is disproportionate to our operating performance. The stock markets in general, and the American Stock Exchange and the market for pharmaceutical and biotechnological companies in particular, have experienced extreme price and volume fluctuations recently. These fluctuations often have been unrelated or disproportionate to the operating performance of these companies. These broad market and industry factors could reduce the market price of our common stock, regardless of our actual operating performance.

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

Statements in this prospectus or in the documents incorporated by reference herein that are not descriptions of historical facts are forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Reference is made in particular to the description of our plans and objectives for future operations, assumptions underlying such plans and objectives and other forward-looking terminology such as "may," "expects," "believes," "anticipates," "intends," "expects," "projects," or similar terms, variations of such terms or the negative of such terms. Forward-looking statements are based on management's current expectations. Actual results could differ materially from those currently anticipated due to a number of factors, including those set forth under "Risk Factors" including, in particular, risks relating to:

the results of ongoing research and development activities;

uncertainties relating to preclinical and clinical testing, financing and strategic agreements and relationships;

the early stage of products under development;

Table of Contents

government regulation;

patent matters; and

competition.

We expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations or any changes in events, conditions or circumstances on which any such statement is based.

USE OF PROCEEDS

Except as otherwise described in the accompanying supplement to this prospectus, the net proceeds from any sale of our securities will be used for general corporate purposes, research and product development activities (potentially including the acquisition of new technologies), conducting preclinical studies and clinical trials, and for the equipping of facilities. Pending application of the proceeds of a sale of our securities, we intend to invest the net proceeds of the sale in short-term, investment-grade, U.S. dollar-denominated, discounted or interest-bearing instruments.

The amounts actually expended by us and the purposes of such expenditures may vary significantly depending upon numerous factors, including the progress of research, drug discovery and development programs, the results of preclinical studies and clinical trials, the timing of regulatory approvals, technological advances, determinations as to the commercial potential of our products under development and the status of competitive products. In addition, expenditures will also depend upon the establishment of collaborative research arrangements with other companies, the availability of other financing and other factors.

GENERAL DESCRIPTION OF BUSINESS

We are a biopharmaceutical company developing proprietary therapeutics for the treatment of central nervous system (CNS) disorders, cardiovascular disease, bone disease and other disorders. Our product development programs focus primarily on large pharmaceutical markets with significant unmet medical needs and commercial potential. We are focused primarily on clinical development of the following products:

Probuphine: for the treatment of opioid dependence

Iloperidone: for the treatment of schizophrenia and related psychotic disorders (partnered with Vanda Pharmaceuticals, Inc.)

Spheramine: for the treatment of advanced Parkinson's disease (partnered with Bayer-Schering Pharma AG)

DITPA: for the treatment of cardiovascular disease

Gallium maltolate: for the treatment of bone related diseases, chronic bacterial infections and cancer

We are directly developing our product candidates and also utilizing corporate partnerships, including a collaboration with (i) Bayer-Schering Pharma AG, Germany (Bayer-Schering) for the development of Spheramine to treat Parkinson's disease, and (ii) Vanda Pharmaceuticals for the development of iloperidone for the treatment of schizophrenia and related psychotic disorders. We also utilize grants from government agencies to fund development of our product candidates. Our products are at various stages of

Table of Contents

development and may not be successfully developed or commercialized. We do not currently have any products being commercially sold. Our proposed products will require significant further capital expenditures, development, testing, and regulatory clearances prior to commercialization. We may experience unanticipated problems relating to product development and cannot predict whether we will successfully develop and commercialize any products.

We were incorporated in Delaware in February 1992 and have funded our operations through various sources, including an initial public offering in January 1996 and private placements of securities, as well as proceeds from warrant and option exercises, corporate licensing and collaborative agreements, and government-sponsored research grants.

The following is a summary of our products that are in clinical testing:

Probuphine

Probuphine is our novel, proprietary product in development for the treatment of opioid dependence. In October 2006, we announced the initiation of a randomized, double-blind, placebo-controlled, multi-center Phase III clinical study of Probuphine in the treatment of opioid dependence. This 150 patient study will evaluate the safety and effectiveness of treatment with Probuphine versus placebo in reducing opioid dependence over 24 weeks of treatment. The Phase III program includes additional clinical studies scheduled to begin in the first half of next year. We continue to have discussions with the FDA relating to finalizing the Probuphine development program.

Iloperidone

Iloperidone has been evaluated by Vanda Pharmaceuticals, Inc. in a randomized, double-blind, placebo-controlled, multi-center, 4 week Phase III clinical trial. Iloperidone demonstrated statistically significant improvement compared to placebo on the Positive and Negative Symptom Scale (PANSS), the trial's primary endpoint. Iloperidone also achieved significant efficacy on the positive and negative symptom subscales of PANSS. The safety profile was consistent with what has been observed in previous Iloperidone Phase III trials. Vanda plans to file a New Drug Application (NDA) with the FDA for iloperidone by the end of 2007. Vanda acquired iloperidone from our sublicensee, Novartis, and Vanda is funding the iloperidone Phase III development program.

Spheramine

Spheramine, our novel, cell-based therapeutic for the treatment of advanced Parkinson's disease, is being evaluated in an ongoing, double-blind, placebo controlled Phase IIb clinical study by our corporate partner Bayer-Schering. The study is continuing to enroll patients and the results from this study are expected to be available in early 2008. The Investigational New Drug application (IND) for Spheramine was transferred to Bayer-Schering in 2006, and Spheramine has been granted both Fast Track and Orphan Drug designations by the FDA.

DITPA

We have discontinued further enrollment in our Phase II study of DITPA in the treatment of congestive heart failure. We will subsequently analyze data collected to date.

The Phase II clinical study of DITPA in the potential treatment of elevated cholesterol is continuing at The Johns Hopkins Medical Institutions in Baltimore.

Gallium maltolate

Gallium maltolate is our novel, oral agent for the potential treatment of chronic bacterial infections, bone disease and cancer. We have developed a new formulation of gallium maltolate with potentially improved bioavailability, and plans to use this new formulation in future clinical development of gallium maltolate.

Table of Contents

DESCRIPTION OF SECURITIES

Common Stock

We are authorized to issue 75,000,000 shares of common stock, of which 39,029,440 were issued and outstanding at January 31, 2007. Holders of Common Stock have the right to cast one vote for each share held of record on all matters submitted to a vote of holders of common stock, including the election of directors. There is no right to cumulate votes for the election of directors. Stockholders holding a majority of the voting power of the capital stock issued and outstanding and entitled to vote, represented in person or by proxy, are necessary to constitute a quorum at any meeting of our stockholders, and the vote by the holders of a majority of such outstanding shares is required to effect certain fundamental corporate changes such as liquidation, merger or amendment of our Certificate of Incorporation.

Holders of common stock are entitled to receive dividends pro rata based on the number of shares held, when, as and if declared by the Board of Directors, from funds legally available therefor, subject to the rights of holders of any outstanding preferred stock. In the event of our liquidation, dissolution or winding up, all our assets remaining after the payment of all debts and other liabilities, subject to the rights of the holders of any outstanding preferred stock, shall be distributed, pro rata, among the holders of the common stock. Holders of common stock are not entitled to preemptive or subscription or conversion rights, and there are no redemption or sinking fund provisions applicable to the common stock.

Preferred Stock

We have authorized 5,000,000 shares of preferred stock, of which no shares were outstanding at January 31, 2007. Our board of directors can issue shares of preferred stock in one or more series and can specify the following terms for each series:

the number of shares;

the designation, powers, preferences and rights of the shares; and

the qualifications, limitations or restrictions, except as otherwise stated in our certificate of incorporation.

The rights of holders of the preferred stock offered may be adversely affected by the rights of holders of any shares of preferred stock that may be issued in the future. Our board of directors may cause shares of preferred stock to be issued in public or private transactions for any proper corporate purpose. Examples include issuances to obtain additional financing in connection with acquisitions or otherwise, and issuances to our officers, directors and employees and our subsidiaries pursuant to benefit plans or otherwise. The preferred stock could have the effect of acting as an anti-takeover device to prevent a change in control of us.

Whenever preferred stock is to be sold pursuant to this prospectus, we will file a prospectus supplement relating to that sale which will specify:

the number of shares in the series of preferred stock;

Table of Contents

the designation for the series of preferred stock by number, letter or title that shall distinguish the series from any other series of preferred stock;

the purchase price;

the dividend rate, if any, and whether dividends on that series of preferred stock will be cumulative, noncumulative or partially cumulative;

the voting rights of that series of preferred stock, if any;

any conversion provisions applicable to that series of preferred stock;

any redemption or sinking fund provisions applicable to that series of preferred stock;

preemptive rights, if any;

any listing of that series of preferred stock on any securities exchange or market;

the relative ranking and preferences of that series of preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;

the liquidation preference per share of that series of preferred stock, if any; and

the terms of any other preferences or rights, if any, applicable to that series of preferred stock.

The General Corporation Law of Delaware provides that the holders of preferred stock will have the right to vote separately as a class on any proposal involving fundamental changes in the rights of holders of that preferred stock. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

The issuance of preferred stock could adversely affect the voting power, conversion or other rights of holders of common stock. Preferred stock could be issued quickly with terms calculated to delay or prevent a change in control of our company or make removal of management more difficult. Additionally, the issuance of preferred stock may have the effect of decreasing the market price of common stock.

The transfer agent and registrar for any series or class of preferred stock will be set forth in the applicable prospectus supplement.

Table of Contents

Anti-Takeover Provisions

Our Amended and Restated Certificate of Incorporation provides that our Board of Directors may divide the authorized shares of preferred stock into any number of series, fix the designation and number of shares of each such series, and determine the relative rights, preferences and limitations of any series of preferred stock. In addition, the Board of Directors is authorized, without any action on the part of our stockholders, to amend our by-laws. Our Board of Directors may use their ability to designate classes of preferred stock or amend our by-laws to deter or delay certain transactions involving an actual or potential change in control of us, including transactions that our stockholders deem beneficial to them.

PLAN OF DISTRIBUTION

We may sell the securities covered by this prospectus in any of three ways (or in any combination):

to or through underwriters or dealers;

directly to a limited number of purchasers or a single purchaser;

through agents.

We will describe in a prospectus supplement the terms of the offering of the securities covered by this prospectus, including:

the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them;

any over-allotment options pursuant to which underwriters may purchase additional securities from us;

any underwriting discounts or commissions or agency fees and other items constituting underwriters' or agents' compensation;

the initial public offering price of the securities and the proceeds to us and any discounts, commissions or concessions allowed or reallocated or paid to dealers; and

any securities exchanges or markets on which the securities may be listed.

Any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time.

Underwriters may offer and sell the offered securities 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. If underwriters are used in the sale of any securities, the securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more

Table of Contents

transactions described above. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters. Generally, the underwriters' obligations to purchase the securities will be subject to certain conditions precedent. The underwriters will be obligated to purchase all of the securities if they purchase any of the securities. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, the nature of any such relationship.

We may sell the securities through agents from time to time. The prospectus supplement will name any agent involved in the offer or sale of the securities and any commissions we pay to them. Generally, any agent will be acting on a best efforts basis for the period of its appointment.

We may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase the securities from us at the public offering price set forth in the prospectus supplement pursuant to 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 any commissions we pay for solicitation of these contracts.

Agents and underwriters may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the agents or underwriters may be required to make in respect thereof. Agents and underwriters may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

All securities we offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents which we have filed with the SEC (File No. 0-27436) pursuant to the Securities Exchange Act of 1934 are incorporated herein by reference:

Our Annual Report on Form 10-K for the fiscal year ended December 31, 2005, as amended, including any documents or portions thereof incorporated by reference therein;

Our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2006, June 30, 2006, and September 30, 2006, including any documents or portions thereof incorporated by reference therein;

Table of Contents

Our Current Reports on Form 8-K, filed with the SEC on January 3, 2006, March 16, 2006, March 21, 2006, and October 26, 2006;

The description of our common stock contained in our Registration Statement on Form 8-A (001-13341), filed with the SEC under Section 12 of the Securities Exchange Act of 1934 on November 12, 1998; and

All other documents filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 subsequent to the date of this prospectus and prior to the termination of this offering.

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 to the extent that a statement contained herein or in any 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 modified or superseded, to constitute a part of this prospectus.

We will provide without charge to each person to whom this prospectus is delivered, upon written or oral request of any such person, a copy of any or all of the documents incorporated herein by reference, other than exhibits to such documents which are not specifically incorporated by reference into such documents. Requests for documents should be directed to us at 400 Oyster Point Boulevard, South San Francisco, California 94080, Attention: Chief Financial Officer, telephone (650) 244-4990.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a Registration Statement on Form S-3 under the Securities Act of 1933 covering the shares offered by this prospectus. This prospectus does not contain all of the information set forth in the registration statement and the exhibits thereto. Statements contained in this prospectus as to the contents of any contract or other document referred to are not necessarily complete and in each instance such statement is qualified by reference to each such contract or document. You may read and copy the registration statement of which this prospectus is a part at the SEC's Public Reference Room, which is located at 100 F Street, N.E., Washington, D.C. 20549. You can request copies of the registration statement by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the SEC's Public Reference Room. In addition, the SEC maintains an Internet web site, which is located at www.sec.gov, which contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. You may access the registration statement of which this prospectus is a part at the SEC's Internet web site. We are subject to the information reporting requirements of the Securities Exchange Act of 1934, and we will file reports, proxy statements and other information with the SEC.

We maintain an Internet web site at www.titanpharm.com. We have not incorporated by reference into this prospectus the information on our web site, and you should not consider it to be a part of this prospectus.

LEGAL MATTERS

The validity of the securities offered hereby have been passed upon for us by Loeb & Loeb LLP, New York, New York.

Table of Contents

EXPERTS

Odenberg, Ullakko, Muranishi & Co. LLP, an independent registered public accounting firm, has audited our consolidated financial statements and management's assessments of the effectiveness of our internal control over financial reporting included in our Annual Report on Form 10-K for the year ended December 31, 2005, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements and management's assessment of the effectiveness of our internal control over financial reporting are incorporated by reference in reliance on Odenberg, Ullakko, Muranishi & Co. LLP's report, given on their authority as experts in accounting and auditing.

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

Table of Contents**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 14. Other Expenses of Issuance and Distribution**

The estimated expenses payable by the Registrant in connection with the issuance and distribution of the securities being registered are as follows:

| | |
|---------------------------------|---------------|
| SEC Registration Fee | \$ 5,350 |
| Printing and Engraving Expenses | 2,500 |
| Legal Fees and Expenses | 20,000 |
| Blue Sky Fees and Expenses | 0 |
| Accounting Fees and Expenses | 15,000 |
| Total | \$ 42,850 |

Item 15. Indemnification of Directors and Officers

The Amended and Restated Certificate of Incorporation and By-Laws of the Registrant provide that the registrant shall indemnify any person to the full extent permitted by the Delaware General Corporation Law (the "DGCL"). Section 145 of the DGCL, relating to indemnification, is hereby incorporated herein by reference.

In accordance with Section 102(a)(7) of the DGCL, the Certificate of Incorporation of the registrant eliminates the personal liability of directors to the registrant or its stockholders for monetary damages for breach of fiduciary duty as a director with certain limited exceptions set forth in Section 102(a)(7).

The registrant also enters into indemnification agreements with each of its officers and directors, the form of which has been filed as Exhibit 10.6 and reference is hereby made to such form.

In addition, the registrant currently maintains an officers and directors liability insurance policy which insures, subject to the exclusions and limitations of the policy, officers and directors of the Company against certain liabilities which might be incurred by them solely in such capacities.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or persons controlling the registrant, pursuant to the foregoing provisions, the Company has been informed that in the opinion of the commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. See Item 17 Undertakings.

Item 16. Exhibits

- 3.1 - Restated Certificate of Incorporation of the Registrant(1)
- 3.2 - Form of Amendment to Restated Certificate of Incorporation of the Registrant(1)
- 3.3 - Form of Amendment to Restated Certificate of Incorporation of the Registrant(2)

Table of Contents

- 3.4 - By-laws of the Registrant(1)
- 4.7 - Certificate of Designation of Series C Preferred Stock(3)
- 5.1 - Opinion of Loeb & Loeb re: Legality
- 23.1 - Consent of Loeb & Loeb (included in Exhibit 5.1)
- 23.2 - Consent of Odenberg Ullakko Muranishi & Co. LLP, Independent Registered Public Accounting Firm
- 23.3 - Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm

(1) Incorporated by reference from the Registrant's Registration Statement on Form SB-2 (File No. 33-99386).

(2) Incorporated by reference from the Registrant's Definitive Proxy Statement on Schedule 14A filed with the SEC on July 12, 2005.

(3) Incorporated by reference from the Registrant's Annual Report on Form 10-K for the year ended December 31, 1997.

Item 17. Undertakings

The undersigned registrant hereby undertakes;

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

Provided, however, that paragraphs (i), (ii) and (iii) above do not apply if the registration statement is on Form S-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

Table of Contents

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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

The undersigned registrant hereby undertake that: (1) for purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrants pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective; and (2) for the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

Table of Contents

SIGNATURES

In accordance with the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has authorized this Registration Statement or Amendment thereto to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of South San Francisco, State of California on the 8th day of February, 2007.

TITAN PHARMACEUTICALS, INC.

By: /s/ Louis R. Bucalo
 Louis R. Bucalo, M.D., Chairman, President
 and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below under the heading Signature constitutes and appoints Louis R. Bucalo and Robert Farrell, or either of them, his true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities to sign any or all amendments to this registration statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, each acting alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully for all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, each acting alone, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

In accordance with the requirements of the Securities Act of 1933, this Registration Statement or Amendment thereto has been signed by the following persons in the capacities and on the dates stated.

| Signature | Title | Date |
|--|---|------------------|
| /s/ Louis R. Bucalo Louis R. Bucalo, M.D. | Chairman, President and Chief Executive Officer (Principal Executive Officer) | February 8, 2007 |
| /s/ Victor J. Bauer Victor J. Bauer, Ph.D. | Director | February 8, 2007 |
| /s/ Sunil Bhonsle Sunil Bhonsle | Executive Vice President, Chief Operating Officer and Director | February 8, 2007 |
| /s/ Eurelio M. Cavalier Eurelio M. Cavalier | Director | February 8, 2007 |

Table of Contents

| | | |
|-------------------------------------|---|------------------|
| /s/ Hubert E. Huckel | Director | February 8, 2007 |
| Hubert E. Huckel, M.D. | | |
| /s/ Joachim Friedrich Kapp | Director | February 8, 2007 |
| Joachim Friedrich Kapp, M.D., Ph.D. | | |
| /s/ M. David MacFarlane | Director | February 8, 2007 |
| M. David MacFarlane, Ph.D. | | |
| /s/ Ley S. Smith | Director | February 8, 2007 |
| Ley S. Smith | | |
| /s/ Konrad M. Weis | Director | February 8, 2007 |
| Konrad M. Weis, Ph.D. | | |
| /s/ Robert E. Farrell | Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer) | February 8, 2007 |
| Robert E. Farrell, J.D. | | |