TITAN PHARMACEUTICALS INC
Form S-3
January 18, 2008
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As Filed With The Securities and Exchange Commission on January 18, 2008

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	**94-3171940**
(State Or Other Jurisdiction Of Incorporation Or Organization)	**(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)

Marc Rubin, M.D., President and Chief Executive Officer

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	Proposed Maximum Aggregate Offering Price per Security (1)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock	13,300,000	$1.61	$21,413,000	$841.53
Common Stock (2)	6,650,000	$1.61	$10,706,500	$420.76
Total	19,950,000		$32,119,500	$1,262.29

(1) Estimated in accordance with Rule 457(c) solely for the purpose of calculating the registration fee. The price shown is the average of the high and low price of the Common Stock on January 14, 2008 as reported by the American Stock Exchange.
(2) Represents shares issuable upon exercise of warrants.

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.

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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 January 18, 2008

Prospectus

TITAN PHARMACEUTICALS, INC.

19,950,000 Shares of Common Stock

This prospectus relates to the resale by the selling stockholders of up to 19,950,000 shares of our common stock, consisting of up to 13,300,000 shares of common stock and 6,650,000 shares of common stock issuable upon exercise of common stock purchase warrants. Selling stockholders named in this prospectus are offering all of the shares to be sold in this offering. We will not receive any of the proceeds from the sale of the shares.

Our common stock is traded on the American Stock Exchange under the symbol TTP. On January , 2008, the closing price of the common stock was $_____.

An investment in our securities involves a high degree of risk. See Risk Factors beginning on page 2.

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 _____, 2008

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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.

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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 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 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.

On December 21, 2007, we completed the sale of units consisting of 13,300,000 shares of our common stock and five-year warrants to purchase 6,650,000 shares of our common stock to the selling stockholders named in this prospectus. We agreed to bear expenses, other than fees and expenses of counsel to the selling stockholders, in connection with the registration and sale of the shares. Selling stockholders named in this prospectus are offering all of the shares to be sold in this offering. We will not receive any of the proceeds from the sale of the shares.

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.

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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, 2007, we had an accumulated deficit of approximately $235.4 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.

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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, 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 or endpoints;
- changes in regulations or the adoption of new regulations;
- unanticipated enforcement of existing regulations;
- unexpected technological developments; and
- developments by our competitors.

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 have found another third party to manufacture the product.

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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 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.

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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. 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;
- 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

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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 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 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

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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.

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 our executive management team and our 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.

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We will need additional financing.

At December 31, 2007, we had approximately $30.0 million of cash, cash equivalents, and marketable securities. Our financing agreement with Azimuth Opportunity Ltd. can provide us with up to an additional $24.0 million, subject to shareholder approval for certain amounts under this agreement. 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 Common Stock Purchase Agreement with Azimuth Opportunity, Ltd., 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 need to seek and obtain stockholder approval of an increase in our authorized capital stock in order to raise additional equity financing or undertake certain potential business transactions.

Following our private placement in December 2007, only 895,166 shares of our authorized common stock remained available for issuance (excluding shares that have been reserved for issuance upon exercise of outstanding options and warrants). While we intend to seek approval of an increase in our authorized capital stock at or prior to the next annual meeting of stockholders, we may not be successful in obtaining the necessary approval. Unless and until we obtain approval of an increase in our authorized capital stock, our ability to raise additional equity financing or pursue certain business opportunities that would entail the issuance of our shares, will be restricted.

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.

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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.

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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 o 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;
- 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.

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USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares by the selling stockholders. The selling stockholders are not obligated to exercise their warrants and we cannot predict whether holders will choose to exercise all or any of their warrants. In the event that all of the warrants are exercised, we will receive gross proceeds of $13.3 million. We expect to use the proceeds received from the exercise of the warrants, if any, for general working capital purposes.

SELLING STOCKHOLDERS

On December 21, 2007, we completed the sale of units consisting of 13,300,000 shares of our common stock and five-year warrants to purchase 6,650,000 shares of our common stock to the selling stockholders listed in the table below. We agreed to bear expenses, other than fees and expenses of counsel to the selling stockholders, in connection with the registration and sale of the shares. See Plan of Distribution.

The following table sets forth information regarding the beneficial ownership of our common stock by the selling stockholders and as adjusted to give effect to the sale of the shares offered hereby. No selling stockholder has held any position or office nor had any material relationship with Titan or its affiliates during the past three years.

Name of Selling Stockholder	Number of Shares Beneficially Owned Prior to Offering	Maximum Number of Shares to be Sold	Number of Shares Beneficially Owned After Offering	Percentage Ownership After Offering
21 April Fund, LP **(1)**	585,937	585,937		
21 April Fund, Ltd. **(2)**	1,757,813	1,757,813		
Capital Ventures International **(3)**	703,125	703,125		
Cranshire Capital, LP **(4)**	234,375	234,375		
DEF Associates N.V.- MMK **(5)**	1,406,250	1,406,250		
First Eagle Contrarian Value Master Fund, Ltd **(6)**	140,625	140,625		
First Eagle Value in Biotechnology Master Fund, Ltd **(7)**	656,250	656,250		
First Eagle Value in Biotechnology Fund, LP **(8)**	140,625	140,625		
Fort Mason Master, L.P. **(9)**	2,201,016	2,201,016		
Fort Mason Partners, L.P. **(10)**	142,734	142,734		
GCA Strategic Investment Fund Limited **(11)**	468,750	468,750		
Henry Beinstein **(12)**	150,000	150,000		
Jennison Health Sciences Fund, a series of Jennison Sector Funds, Inc. **(13)**	8,550,000	8,550,000		
Libra Fund, LP **(14)**	1,406,250	1,406,250		
Libra Offshore, Ltd **(15)**	468,750	468,750		
Platinum Partners Value Arbitrage Fund, LP **(16)**	937,500	937,500		

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(1) Number of shares beneficially owned prior to the offering and to be sold includes 195,312 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Arnhold and S. Bleichroeder Advisers, LLC, investment manager of 21 April Fund, LP, is an affiliate of ASB Securities, LLC, a broker-dealer and certifies that it bought the securities in the ordinary course of business, and at the time of the purchase of the securities to be resold, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities. Michael M. Kellen, in his capacity as Vice Chairman of Arnhold and S. Bleichroeder Advisers, LLC may also be deemed to have investment discretion and voting power over these securities.

(2) Number of shares beneficially owned prior to the offering and to be sold includes 585,938 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Arnhold and S. Bleichroeder Advisers, LLC, investment manager of 21 April Fund, Ltd., is an affiliate of ASB Securities, LLC, a broker-dealer and certifies that it bought the securities in the ordinary course of business, and at the time of the purchase of the securities to be resold, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities. Michael M. Kellen, in his capacity as Vice Chairman of Arnhold and S. Bleichroeder Advisers, LLC may also be deemed to have investment discretion and voting power over these securities.

(3) Number of shares beneficially owned prior to the offering and to be sold includes 234,375 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Heights Capital Management, Inc., the authorized agent of Capital Ventures International, has discretionary authority to vote and dispose of these securities. Martin Kobinger, in his capacity as Investment Manager of Heights Capital Management, Inc. may also be deemed to have investment discretion and voting power over these securities.

(4) Number of shares beneficially owned prior to the offering and to be sold includes 78,125 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Mitchell P. Kopin, President of Downsview Capital, Inc., the General Partner of Cranshire Capital, L.P., is the control person who has voting and investment power over these securities.

(5) Number of shares beneficially owned prior to the offering and to be sold includes 468,750 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Arnhold and S. Bleichroeder Advisers, LLC, investment manager of DEF Associates N.V.-MMK, is an affiliate of ASB Securities, LLC, a broker-dealer and certifies that it bought the securities in the ordinary course of business, and at the time of the purchase of the securities to be resold, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities. Michael M. Kellen, in his capacity as Vice Chairman of Arnhold and S. Bleichroeder Advisers, LLC may also be deemed to have investment discretion and voting power over these securities.

(6) Number of shares beneficially owned prior to the offering and to be sold includes 46,875 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Arnhold and S. Bleichroeder Advisers, LLC, investment manager of First Eagle Contrarian Value Master Fund, Ltd, is an affiliate of ASB Securities, LLC, a broker-dealer and certifies that it bought the securities in the ordinary course of business, and at the time of the purchase of the securities to be resold, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities. Dan Declue, in his capacity as Senior Vice President of Arnhold and S. Bleichroeder Advisers, LLC may also be deemed to have investment discretion and voting power over these securities.

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(7) Number of shares beneficially owned prior to the offering and to be sold includes 218,750 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Arnhold and S. Bleichroeder Advisers, LLC, investment manager of First Eagle Value in Biotechnology Master Fund, Ltd, is an affiliate of ASB Securities, LLC, a broker-dealer and certifies that it bought the securities in the ordinary course of business, and at the time of the purchase of the securities to be resold, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities. Dan Declue, in his capacity as Senior Vice President of Arnhold and S. Bleichroeder Advisers, LLC may also be deemed to have investment discretion and voting power over these securities.

(8) Number of shares beneficially owned prior to the offering and to be sold includes 46,875 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Arnhold and S. Bleichroeder Advisers, LLC, investment manager of First Eagle Value in Biotechnology Fund, LP, is an affiliate of ASB Securities, LLC, a broker-dealer and certifies that it bought the securities in the ordinary course of business, and at the time of the purchase of the securities to be resold, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities. Dan Declue, in his capacity as Senior Vice President of Arnhold and S. Bleichroeder Advisers, LLC may also be deemed to have investment discretion and voting power over these securities.

(9) Number of shares beneficially owned prior to the offering and to be sold includes 733,672 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Fort Mason Capital, LLC serves as the general partner of Fort Mason Master, L.P. and, in such capacity, exercises sole voting and investment advisory power over these securities. Daniel German serves as the sole managing member of Fort Mason Capital, LLC.

(10) Number of shares beneficially owned prior to the offering and to be sold includes 47,578 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Fort Mason Capital, LLC serves as the general partner of Fort Mason Partners, L.P. and, in such capacity, exercises sole voting and investment advisory power over these securities. Daniel German serves as the sole managing member of Fort Mason Capital, LLC.

(11) Number of shares beneficially owned prior to the offering and to be sold includes 156,250 shares of common stock that may be issued upon exercise of certain warrants. Lewis N. Lester, Director of GCA Strategic Investment Fund Limited, is the control person who has voting and investment power over these securities.

(12) Number of shares beneficially owned prior to the offering and to be sold includes 50,000 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. In his position as a principal partner of Gagnon Securities, LLC, Henry Beinstein is an affiliate of Gagnon Securities, LLC, a broker-dealer, and certifies that he bought the securities in the ordinary course of business, and at the time of the purchase of the securities to be resold, he had no agreements or understandings, directly or indirectly, with any person to distribute the securities.

(13) Number of shares beneficially owned prior to the offering and to be sold includes 2,850,000 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Jennison Associates LLC serves as a sub-advisor to the Jennison Health Sciences Fund, a series of Jennison Sector Funds, Inc., and has voting and investment power over these securities. As such, Jennison Associates LLC may be deemed to beneficially own the shares held by this

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entity. Jennison Associates LLC expressly disclaims ownership of such shares. Jennison Associates LLC is a wholly owned subsidiary of Prudential Financial, Inc., which is a publicly traded financial services firm. Jennison Health Sciences Fund is an affiliate of Prudential Investment Management Services LLC, its principal underwriter who is a broker-dealer and certifies that it bought the securities in the ordinary course of business, and at the time of the purchase of the securities to be resold, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities.

(14) Number of shares beneficially owned prior to the offering and to be sold includes 468,750 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Libra Associates, LLC, the general partner of Libra Fund, LP and has the power to vote and to direct the voting of and the power to dispose and direct the disposition of these securities. Ranjan Tandon is the sole voting member and manager of Libra Associates, LLC and may be deemed to have the power to vote and to direct the voting of and the power to dispose and direct the disposition of the securities beneficially owned by Libra Associates, LLC.

(15) Number of shares beneficially owned prior to the offering and to be sold includes 156,250 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Libra Advisors, LLC, the investment manager of Libra Offshore, Ltd. and has the power to vote and to direct the voting of and the power to dispose and direct the disposition of these securities. Ranjan Tandon is the sole voting member and manager of Libra Advisors, LLC and may be deemed to have the power to vote and to direct the voting of and the power to dispose and direct the disposition of the securities beneficially owned by Libra Advisors, LLC.

(16) Number of shares beneficially owned prior to the offering and to be sold includes 312,500 shares of common stock that may be issued upon exercise of warrants issued in the December 21, 2007 offering. Mark Nordlight is the managing member of Platinum Partners Value Arbitrage Fund, LP and the control person who has voting and investment power over these securities.

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PLAN OF DISTRIBUTION

We are registering the shares of Common Stock issued to the selling stockholders and issuable upon exercise of the warrants issued to the selling stockholders to permit the resale of these shares of Common Stock by the holders of the shares of Common Stock and warrants from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of Common Stock. We will bear all fees and expenses incident to our obligation to register the shares of Common Stock.

The selling stockholders may sell all or a portion of the shares of Common Stock beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of Common Stock are sold through underwriters or broker-dealers, the selling stockholders will be responsible for underwriting discounts or commissions or agent s commissions. The shares of Common Stock may be sold on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, in the over-the-counter market or in transactions otherwise than on these exchanges or systems or in the over-the-counter market and in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. The selling stockholders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act, as permitted by that rule, or Section 4(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions.

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Broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in sales. If the selling stockholders effect such transactions by selling shares of Common Stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares of Common Stock for whom they may act as agent or to whom they may sell as principal. Such commissions will be in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with sales of the shares of Common Stock or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the shares of Common Stock in the course of hedging in positions they assume. The selling stockholders may also sell shares of Common Stock short and if such short sale shall take place after the date that this Registration Statement is declared effective by the Commission, the selling stockholders may deliver shares of Common Stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholders may also loan or pledge shares of Common Stock to broker-dealers that in turn may sell such shares, to the extent permitted by applicable law. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). Notwithstanding the foregoing, the selling stockholders have been advised that they may not use shares registered on this registration statement to cover short sales of our common stock made prior to the date the registration statement, of which this prospectus forms a part, has been declared effective by the SEC.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the warrants or shares of Common Stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of Common Stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933, as amended, amending, if necessary, the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer and donate the shares of Common Stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling stockholders and any broker-dealer or agents participating in the distribution of the shares of Common Stock may be deemed to be underwriters within the meaning of Section 2(11) of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, any such broker-dealer or agent and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Selling Stockholders who are underwriters within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Each selling stockholder has informed the Company that it is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the Common Stock. Upon the Company being notified in writing by a selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of common stock through

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a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, a supplement to this prospectus will be filed, if required, pursuant to Rule 424(b) under the Securities Act, disclosing (i) the name of each such selling stockholder and of the participating broker-dealer(s), (ii) the number of shares involved, (iii) the price at which such the shares of Common Stock were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable, (v) that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and (vi) other facts material to the transaction. In no event shall any broker-dealer receive fees, commissions and markups, which, in the aggregate, would exceed eight percent (8%).

Under the securities laws of some states, the shares of Common Stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of Common Stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that any selling stockholder will sell any or all of the shares of Common Stock registered pursuant to the shelf registration statement, of which this prospectus forms a part.

Each selling stockholder and any other person participating in such distribution will be subject to applicable provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, including, without limitation, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of Common Stock by the selling stockholder and any other participating person. Regulation M may also restrict the ability of any person engaged in the distribution of the shares of Common Stock to engage in market-making activities with respect to the shares of Common Stock. All of the foregoing may affect the marketability of the shares of Common Stock and the ability of any person or entity to engage in market-making activities with respect to the shares of Common Stock.

We will pay all expenses of the registration of the shares of Common Stock pursuant to the registration rights agreement, including, without limitation, Securities and Exchange Commission filing fees and expenses of compliance with state securities or blue sky laws; *provided*, *however*, that each selling stockholder will pay all underwriting discounts and selling commissions, if any and any related legal expenses incurred by it. We will indemnify the selling stockholders against certain liabilities, including some liabilities under the Securities Act, in accordance with the registration rights agreements, or the selling stockholders will be entitled to contribution. We may be indemnified by the selling stockholders against civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the selling stockholders specifically for use in this prospectus, in accordance with the related registration rights agreements, or we may be entitled to contribution.

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 year ended December 31, 2006, including any documents or portions thereof incorporated by reference therein;

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Our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2007, June 30, 2007 and September 30, 2007, including any documents or portions thereof incorporated by reference therein;

Our Current Reports on Form 8-K, filed with the SEC on March 14, 2007, March 16, 2007, April 26, 2007, May 7, 2007, September 26, 2007, October 4, 2007, October 26, 2007, November 30, 2007, December 4, 2007, December 14, 2007, December 17, 2007, December 19, 2007 and December 27, 2007;

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. We are subject to the informational requirements of the Securities Exchange Act of 1934, and in accordance therewith files reports and other information with the SEC. Copies of such material can be obtained from the Public Reference Room of the SEC at 100 F Street, N.E., Washington, D.C. 20549 at prescribed rates. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. We are an electronic filer, and the SEC maintains a web site that contains reports, proxy and information statements and other information regarding us at *www.sec.gov*.

LEGAL MATTERS

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

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EXPERTS

Odenberg, Ullakko, Muranishi & Co. LLP, Independent Registered Public Accounting Firm, have audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2006, 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 Odenberg, Ullakko, Muranishi & Co. LLP s report, given on their authority as experts in accounting and auditing.

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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	$ 1,262.29
Printing and Engraving Expenses	1,500.00
Legal Fees and Expenses	25,000.00
Blue Sky Fees and Expenses	1,500.00
Accounting Fees and Expenses	5,000.00
Total	34,262.29

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 to the Registrant s Registration Statement on Form SB-2 (File No. 33-99386) 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)

3.4 - By-laws of the Registrant(1)

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4.9	-	Form of Warrant
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

(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.

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.

(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.

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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.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-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 18th day of January, 2008.

TITAN PHARMACEUTICALS, INC.

By: /s/ Marc Rubin
Marc Rubin, M.D., 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.

Pursuant to 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/ Marc Rubin Marc Rubin, M.D.	President, Chief Executive Officer and Director (principal executive officer)	January 18, 2008
/s/ Louis R. Bucalo Louis R. Bucalo, M.D.	Executive Chairman	January 17, 2008
/s/ Victor J. Bauer Victor J. Bauer, Ph.D.	Director	January 15, 2008
Sunil Bhonsle	Executive Vice President, Chief Operating Officer and Director	January __, 2008
/s/ Eurelio M. Cavalier Eurelio M. Cavalier	Director	January 15, 2008

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/s/ Hubert E. Huckel Hubert E. Huckel, M.D.	Director	January 16, 2008
/s/ Joachim Friedrich Kapp, M.D., Ph.D. Joachim Friedrich Kapp, M.D., Ph.D.	Director	January 17, 2008
/s/ M. David MacFarlane M. David MacFarlane, Ph.D.	Director	January 16, 2008
/s/ Ley S. Smith Ley S. Smith	Director	January 15, 2008
/s/ Konrad M. Weis Konrad M. Weis, Ph.D.	Director	January 16, 2008
/s/ Robert E. Farrell Robert E. Farrell, J.D.	Executive Vice President and Chief Financial Officer (principal financial and accounting officer)	January 18, 2008

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Exhibit Index

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(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.