UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act 1934

Date of Report (Date of earliest event reported): March 15, 2011

Titan Pharmaceuticals, Inc.

(Exact name of registrant as specified in charter)

Delaware		
(State or other jurisdiction of incorporation)		
Delaware	**0-27436**	**94-3171940**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**
400 Oyster Point Blvd., Suite 505, South San Francisco, CA		**94080**
(Address of Principal Executive Offices)		**(Zip Code)**

Registrant's telephone number, including area code: 650-244-4990

(Former Name or Former Address, is Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12(b) under the Exchange Act (17 CFR 240.14a-12(b))

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 1.01 Entry into a Material Definitive Agreement.

On March 16, 2011, Titan Pharmaceuticals, Inc. (the "Company") announced that it had entered into several agreements with entities affiliated with Deerfield Management, a healthcare investment fund (collectively, "Deerfield"), pursuant to which Deerfield agreed to provide $20 million in funding to the Company. Pursuant to the terms of a Facility Agreement, dated as of March 15, 2011 (the "Facility Agreement"), the Company will issue Deerfield promissory notes in the aggregate principal amount of $20 million. Under a Royalty Agreement, dated as of March 15, 2011 (the "Royalty Agreement"), the Company has agreed to pay Deerfield a portion of the royalty revenue it receives from Novartis Pharma AG, specifically, 2.5% of the aggregate royalties on net sales of Fanapt® (iloperidone), an atypical antipsychotic compound approved in the U.S. for the treatment of schizophrenia currently being marketed by Novartis. The agreements also provide the Company with the option to repurchase the royalty rights for $40 million. The Company has issued to Deerfield six-year warrants to purchase 6,000,000 shares of common stock at an exercise price of $1.57 per share. Collectively, these transactions are referred to as the "Transactions." Funding of the Facility Agreement and the Royalty Agreement is expected to take place on or about April 4, 2011.

RBC Capital Markets acted as exclusive placement agent to the Company in connection with the Transactions.

Each of the material agreements relating to the Transactions is summarized in greater detail below. The press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated by reference herein.

Facility Agreement

Under the terms of the Facility Agreement, the Company will issue five-year promissory notes in the aggregate principal amount of $20 million. The facility is repayable over five years, with 10% of the principal amount due on the first anniversary, 15% due on the second anniversary, and 25% due on each of the next three anniversaries. Interest will accrue on the outstanding balance until maturity at a rate of 8.5% per annum, payable quarterly. The Company can prepay the outstanding balance at any time at 110% of the remaining principal amount. Deerfield has a put right at 110% of the principal amount in the event the Company completes a major transaction, which includes, but is not limited to, a merger or sale of the Company or the sale of Fanapt® or Probuphine™. A copy of the Facility Agreement is attached as Exhibit 10.1 to this Current Report on Form 8-K and is incorporated by reference herein.

Security Agreement

In connection with the Facility Agreement, Deerfield and the Company entered into a Security Agreement, dated as of March 15, 2011 (the "Security Agreement"), pursuant to which the Company has granted Deerfield a security interest in substantially all of the assets of the Company; provided, however, that Deerfield's security interest expressly excludes any interest in Probuphine™ that may be licensed, transferred, assigned, sold and/or contributed by the Company to any unaffiliated third party, thereby allowing the Company to retain the ability to enter into an agreement with respect to the licensing or partnering of Probuphine™. A copy of the Security Agreement is attached as Exhibit 10.2 to this Current Report on Form 8-K and is incorporated by reference herein.

Royalty Agreements

In connection with the Transactions, Deerfield acquired the right to receive 2.5% of the aggregate royalties on net sales of Fanapt®, which is a portion of the royalty revenue the Company is entitled to receive from Novartis under the terms of a Sublicense Agreement between the Company and Novartis. The terms of the royalty rights are governed by the Royalty Agreement, together with an Equity Option Agreement and a Royalty Repurchase Agreement, each dated as of March 15, 2011 (collectively, the "Royalty Agreements"). Payments in respect of the royalty right are required to be made no later than 60 days following the end of each of the Company's first three fiscal quarters, and no later than 120 days following the end of the Company's fourth fiscal quarter. The Royalty Agreement contains customary representations, warranties and covenants for a transaction of this type, including covenants requiring the Company to (i) keep accurate records of net sales of Fanapt® , and (ii) not take any action that would have the effect of reducing net sales of Fanapt® or impair the ability of Deerfield to receive amounts due under the Royalty Agreement.

The Royalty Agreements provide the Company the option to repurchase the royalty rights from Deerfield at any time for $40,000,000. If the Company exercises its option, any further royalty payments to Deerfield will cease.

The Royalty Agreement, Equity Option Agreement and Royalty Repurchase Agreement are attached as Exhibits 10.3, 10.4 and 10.5, respectively, to this Current Report on Form 8-K and are incorporated by reference herein.

Warrant to Purchase Common Stock

In connection with the Transactions, the Company issued to Deerfield six-year warrants to purchase an aggregate of 6,000,000 shares of common stock at an exercise price of $1.57 per share, representing a 10% premium to the closing bid price on the date of issuance (the "Warrants"). The Warrants contain weighted average anti-dilution protection for future securities issuances by the Company, subject to certain exclusions, and other customary provisions, and default provisions entitling the holder to the issuance of penalty shares or cash payments upon the occurrence of certain events.

In connection with the issuance of the Warrants, the Company entered into a Registration Rights Agreement, dated as of March 15, 2011, pursuant to which the Company has agreed to file, no later than April 14, 2011, a registration statement with the Securities and Exchange Commission (the "SEC") covering the resale of the shares of common stock issuable upon exercise of the Warrants. The form of the Warrants and the Registration Rights Agreement are attached as Exhibits 4.1 and 4.2, respectively, to this Current Report on Form 8-K and are incorporated by reference herein.

The sale of the Warrants was exempt from registration pursuant to Section 4(2) of the Securities Act of 1933, as amended (the "Securities Act"). The Warrants and the securities to be issued upon exercise of the Warrants have not been registered under the Securities Act or state securities laws and may not be offered or sold in the United States absent registration with the SEC or an applicable exemption from the registration requirements.

Item 2.03. Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant.

The information set forth under Item 1.01 of this Form 8-K is hereby incorporated by reference into this Item 2.03.

Item 3.02 Unregistered Sales of Equity Securities.

The information set forth under Item 1.01 of this Form 8-K is hereby incorporated by reference into this Item 3.02.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits

4.1	Form of Warrant
4.2	Registration Rights Agreement, dated as of March 15, 2011
10.1	Facility Agreement, dated as of March 15, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Private Design International II, L.P., Deerfield Special Situations Fund, L.P., and Deerfield Special Situations Fund International Limited
10.2	Security Agreement, dated as of March 15, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Private Design International II, L.P., Deerfield Special Situations Fund, L.P., and Deerfield Special Situations Fund International Limited
10.3	Royalty Agreement, dated as of March 15, 2011 by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P. and Deerfield TTNP Corporation
10.4	Equity Option Agreement, dated as of March 15, 2011, by and among the Company, Deerfield TTNP Corporation, Deerfield Private Design International II, L.P., and Deerfield Special Situations Fund International Limited
10.5	Royalty Repurchase Agreement, dated as of March 15, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., and Deerfield Special Situations Fund, L.P.
99.1	Press Release dated March 16, 2011

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Company has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle
Name: Sunil Bhonsle
Title: President

Dated: March 18, 2011

Exhibit Index

Exhibit No.	Description
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Exhibit 4.1

THIS WARRANT AND THE SECURITIES ISSUABLE UPON EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY STATE SECURITIES LAW, AND MAY NOT BE SOLD, TRANSFERRED, ASSIGNED, PLEDGED, HYPOTHECATED OR OTHERWISE DISPOSED OF OR EXERCISED UNLESS (I) A REGISTRATION STATEMENT UNDER THE SECURITIES ACT AND APPLICABLE STATE SECURITIES LAWS SHALL HAVE BECOME EFFECTIVE WITH REGARD THERETO, OR (II) AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT AND APPLICABLE STATE SECURITIES LAWS IS AVAILABLE IN CONNECTION WITH SUCH OFFER, SALE OR TRANSFER.

AN INVESTMENT IN THESE SECURITIES INVOLVES A HIGH DEGREE OF RISK. HOLDERS MUST RELY ON THEIR OWN ANALYSIS OF THE INVESTMENT AND ASSESSMENT OF THE RISKS INVOLVED.

Warrant to Purchase
shares

Warrant Number

Warrant to Purchase Common Stock
of
Titan Pharmaceuticals, Inc.

THIS CERTIFIES that _____ or any subsequent holder hereof ("Holder") has the right to purchase from Titan Pharmaceuticals, Inc., a Delaware corporation, (the "Company"), _____ (_____) fully paid and nonassessable shares of the Company's common stock, $0.001 par value per share ("Common Stock"), subject to adjustment as provided herein, at a price equal to the Exercise Price as defined in Section 3 below, at any time during the Term (as defined below).

Holder agrees with the Company that this Warrant to Purchase Common Stock of the Company (this "Warrant" or this "Agreement") is issued and all rights hereunder shall be held subject to all of the conditions, limitations and provisions set forth herein.

1. Date of Issuance and Term.

This Warrant shall be deemed to be issued on March 15, 2011 ("Date of Issuance"). The term of this Warrant begins on the Date of Issuance and ends at 5:00 p.m., New York City time, on the date that is six (6) years after the Date of Issuance (the "Term"). This Warrant was issued in conjunction with that certain Facility Agreement (the "Facility Agreement") and the Registration Rights Agreement ("Registration Rights Agreement") by and between the Company and Deerfield Private Design International II, L.P., Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P. and Deerfield Special Situations Fund International Limited, each dated March 15, 2011, entered into in conjunction herewith.

Notwithstanding anything herein to the contrary, the Company shall not issue to the Holder, and the Holder may not acquire, a number of shares of Common Stock upon exercise of this Warrant to the extent that, upon such exercise, the number of shares of Common Stock then beneficially owned by the Holder and its Affiliates and any other persons or entities whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") (including shares held by any "group" of which the Holder is a member, but excluding shares beneficially owned by virtue of the ownership of securities or rights to acquire securities that have limitations on the right to convert, exercise or purchase similar to the limitation set forth herein) would exceed 9.98% of the total number of shares of Common Stock then issued and outstanding (the "9.98% Cap"), provided, however, that the 9.98% Cap shall not apply with respect to the issuance of shares of Common Stock pursuant to a Cashless Major Exercise (as defined below) in connection with a Major Transaction (as defined below) covered by the provisions of Section 5(c)(i)(A) below in which the Company is not the surviving entity (a "Qualified Change of Control Transaction") and, provided further, that the 9.98% Cap shall only apply to the extent that the Common Stock is deemed to constitute an "equity

security" pursuant to Rule 13d-1(i) promulgated under the Exchange Act. For purposes hereof, "group" has the meaning set forth in Section 13(d) of the Exchange Act and applicable regulations of the Securities and Exchange Commission (the "SEC"), and the percentage held by the Holder shall be determined in a manner consistent with the provisions of Section 13(d) of the Exchange Act. Upon the written request of the Holder, the Company shall, within two (2) Trading Days, confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding.

"Affiliate" means any person or entity that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person or entity, as such terms are used in and construed under Rule 144 under the Securities Act of 1933, as amended (the "Securities Act"). With respect to a Holder of Warrants, any investment fund or managed account that is managed on a discretionary basis by the same investment manager as such Holder will be deemed to be an Affiliate of such Holder.

2. Exercise.

(a) Manner of Exercise. During the Term, this Warrant may be Exercised as to all or any lesser number of whole shares of Common Stock covered hereby (the "Warrant Shares" or the "Shares") upon surrender of this Warrant, with the Exercise Form attached hereto as Exhibit A (the "Exercise Form") duly completed and executed, together with the full Exercise Price (as defined below, which may be satisfied by a Cash Exercise or a Cashless Exercise, as each is defined below) for each share of Common Stock as to which this Warrant is Exercised, at the office of the Company, Titan Pharmaceuticals, Inc., 400 Oyster Point Blvd, Suite 505, South San Francisco, CA 94080, Phone: (650) 244-4990, Fax: (650) 244-4956, or at such other office or agency as the Company may designate in writing, by overnight mail, with an advance copy of the Exercise Form sent to the Company and its transfer agent Continental Stock Transfer & Trust Company, Fax: (212) 509-5150 ("Transfer Agent") by facsimile (such surrender and payment of the Exercise Price hereinafter called the "Exercise" of this Warrant).

(b) Date of Exercise. The "Date of Exercise" of the Warrant shall be defined as the date that the Exercise Form attached hereto as Exhibit A, completed and executed, is sent by facsimile to the Company and the Exercise Price is satisfied (if the Exercise is a Cash Exercise), provided that the original Warrant and Exercise Form are received by the Company, each as soon as practicable thereafter. Alternatively, the Date of Exercise shall be defined as the date the original Exercise Form is received by the Company and the Exercise Price is satisfied (if the Exercise is a Cash Exercise), if Holder has not sent advance notice by facsimile. Upon delivery of the Exercise Form to the Company by facsimile or otherwise and receipt of the Exercise Price by the Company (if the Exercise is a Cash Exercise), the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been Exercised, irrespective of the date such Warrant Shares are credited to the Holder's Depository Trust Company ("DTC") account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

(c) Delivery of Common Stock Upon Exercise. Within three (3) business days after any Date of Exercise, or in the case of a Cashless Major Exercise or a Cashless Default Exercise (each as defined in Section 5(c) below), within the period provided in Section 5(c)(iii) or Section 3(c), as applicable (the "Delivery Period"), the Company shall issue and deliver (or cause its Transfer Agent to issue and deliver) in accordance with the terms hereof to or upon the order of the Holder that number of Exercise Shares for the portion of this Warrant converted as shall be determined in accordance herewith. Upon the Exercise of this Warrant or any part hereof, the Company shall, at its own cost and expense, take all necessary action, including obtaining and delivering an opinion of counsel, to assure that the Transfer Agent shall issue stock certificates in the name of Holder (or its nominee) or such other Persons as designated by Holder and in such denominations to be specified at Exercise representing the number of Exercise Shares issuable upon such Exercise. The Company warrants that no instructions other than these instructions have been or will be given to the Transfer Agent and that, unless waived by the Holder, this Warrant and the Exercise Shares will be free-trading, and freely transferable, and will not contain a legend restricting the resale or transferability of the Exercise Shares if the Unrestricted Conditions (as defined below) are met.

(d) Delivery Failure. In addition to any other remedies which may be available to the Holder, in the event that the Company fails for any reason to effect delivery of the Exercise Shares by the end of the Delivery Period (a "Delivery Failure"), the Holder will be entitled to revoke all or part of the relevant Exercise Form by delivery of a notice to such effect to the Company whereupon the Company and the Holder shall each be restored to their

respective positions immediately prior to the delivery of such notice, except that the liquidated damages described herein shall be payable through the date notice of revocation or rescission is given to the Company.

(e) Legends.

(i) Restrictive Legend. The Holder understands that until such time as the Exercise Shares and the Failure Payment Shares have been registered under the Securities Act as contemplated by the Registration Rights Agreement or otherwise may be sold pursuant to Rule 144 or Rule 144A under the Securities Act or an exemption from registration under the Securities Act without any restriction as to the number of securities as of a particular date that can then be immediately sold, this Warrant, the Exercise Shares and the Failure Payment Shares, as applicable, may bear a restrictive legend in substantially the following form (and a stop-transfer order may be placed against transfer of the certificates for such securities):

> "THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE SOLD, TRANSFERRED OR ASSIGNED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER SAID ACT, OR PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER SAID ACT INCLUDING, WITHOUT LIMITATION, PURSUANT TO RULES 144 OR 144A UNDER SAID ACT OR PURSUANT TO A PRIVATE SALE EFFECTED UNDER APPLICABLE FORMAL OR INFORMAL SEC INTERPRETATION OR GUIDANCE, SUCH AS A SO-CALLED "4(1) AND A HALF" SALE."
>
> "THE SALE, TRANSFER OR ASSIGNMENT OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO THE TERMS AND CONDITIONS OF A CERTAIN REGISTRATION RIGHTS AGREEMENT DATED AS OF MARCH 15, 2011, AS AMENDED FROM TIME TO TIME, AMONG THE COMPANY AND CERTAIN HOLDERS OF ITS OUTSTANDING SECURITIES. COPIES OF SUCH AGREEMENT MAY BE OBTAINED AT NO COST BY WRITTEN REQUEST MADE BY THE HOLDER OF RECORD OF THIS CERTIFICATE TO THE SECRETARY OF THE COMPANY."

(ii) Removal of Restrictive Legends. The certificates evidencing the Exercise Shares and the Failure Payment Shares, as applicable, shall not contain any legend restricting the transfer thereof (including the legend set forth above in subsection 2(e)(i)): (A) while a registration statement (including a Registration Statement, as defined in the Registration Rights Agreement) covering the sale or resale of such security is effective under the Securities Act, or (B) following any sale of such Exercise Shares and/or Failure Payment Shares pursuant to Rule 144 or Rule 144A, or (C) if such Exercise Shares and/or Failure Payment Shares are eligible for sale under Rule 144(b)(1), or (D) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the SEC) (collectively, the "Unrestricted Conditions"). The Company shall cause its counsel to issue a legal opinion to the Transfer Agent promptly after the Effective Date if required by the Company's transfer agent to effect the issuance of the Exercise Shares or the Failure Payment Shares, as applicable, without a restrictive legend or removal of the legend hereunder. If the Unrestricted Conditions are met at the time of issuance of the Exercise Shares or the Failure Payment Shares, then such Warrant, Exercise Shares or Failure Payment Shares, as applicable, shall be issued free of all legends. The Company agrees that following the Effective Date at such time as the Unrestricted Conditions are met or such legend is otherwise no longer required under this Section 2(e), it will, no later than three (3) Trading Days following the delivery (the "Unlegended Shares Delivery Deadline") by the Holder to the Company or the Transfer Agent of this Warrant and a certificate representing Exercise Shares and/or Failure Payment Shares, as applicable, issued with a restrictive legend (such third Trading Day, the "Legend Removal Date"), deliver or cause to be delivered to such Holder this Warrant and/or a certificate (or electronic transfer) representing such shares that is free from all restrictive and other legends.

(iii) Sale of Unlegended Shares. Holder agrees that the removal of the restrictive legend from this Warrant and any certificates representing securities as set forth in Section 2(e) above is predicated upon the Company's reliance that the Holder will sell this Warrant or any Exercise Shares and/or any Failure Payment Shares, as applicable, pursuant to either the registration requirements of the Securities Act, including any applicable prospectus delivery

requirements, or an exemption therefrom, and that if such securities are sold pursuant to a Registration Statement, they will be sold in compliance with the plan of distribution set forth therein.

(f) Cancellation of Warrant. This Warrant shall be canceled upon the full Exercise of this Warrant, and, as soon as practical after the Date of Exercise, Holder shall be entitled to receive Common Stock for the number of shares purchased upon such Exercise of this Warrant, and if this Warrant is not Exercised in full, Holder shall be entitled to receive a new Warrant (containing terms identical to this Warrant) representing any unexercised portion of this Warrant in addition to such Common Stock.

(g) Holder of Record. Each person in whose name any Warrant for shares of Common Stock is issued shall, for all purposes, be deemed to be the Holder of record of such shares on the Date of Exercise of this Warrant, irrespective of the date of delivery of the Common Stock purchased upon the Exercise of this Warrant.

(h) Delivery of Electronic Shares. In lieu of delivering physical certificates representing the Common Stock issuable upon Exercise or legend removal, or representing Failure Payment Shares, provided the Transfer Agent is participating in the DTC Fast Automated Securities Transfer ("FAST") program, upon written request of the Holder, the Company shall use its best efforts to cause its Transfer Agent to electronically transmit the Common Stock issuable upon Exercise to the Holder by crediting the account of the Holder's prime broker with DTC through its Deposit Withdrawal Agent Commission (DWAC) system. The time periods for delivery and penalties described herein shall apply to the electronic transmittals described herein. Any delivery not effected by electronic transmission shall be effected by delivery of physical certificates.

(i) Buy-In. In addition to any other rights available to the Holder, if the Company fails to cause its Transfer Agent to transmit to the Holder a certificate or certificates, or electronic shares through DWAC, representing the Exercise Shares pursuant to an Exercise, on or before the Delivery Period, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Exercise Shares which the Holder anticipated receiving upon such Exercise (a "Buy-In"), then the Company shall (1) pay in cash to the Holder the amount by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (A) the number of Exercise Shares that the Company was required to deliver to the Holder in connection with the Exercise at issue times and (B) the price at which the sell order giving rise to such purchase obligation was executed, and (2) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Exercise Shares for which such Exercise was not honored or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its Exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of $11,000 to cover a Buy-In with respect to an attempted Exercise to cover the sale of Common Stock with an aggregate sale price giving rise to such purchase obligation of $10,000, under clause (1) of the immediately preceding sentence the Company shall be required to pay the Holder $1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In, together with applicable confirmations and other evidence reasonably requested by the Company. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver certificates representing shares of Common Stock upon Exercise of the Warrant as required pursuant to the terms hereof.

3. Payment of Warrant Exercise Price for Cash Exercise or Cashless Exercise; Cashless Major Exercise and Cashless Default Exercise.

(a) Exercise Price. The Exercise Price ("Exercise Price") shall initially equal $1.57 per share, subject to adjustment pursuant to the terms hereof, including but not limited to Section 5 below.

Payment of the Exercise Price may be made by either of the following, or a combination thereof, at the election of Holder:

(i) Cash Exercise: The Holder may exercise this Warrant in cash, bank or cashier's check or wire transfer (a "Cash Exercise"); or

(ii) Cashless Exercise: The Holder, at its option, may exercise this Warrant in a cashless exercise transaction. In order to effect a Cashless Exercise, the Holder shall surrender this Warrant at the principal office of the Company together with notice of cashless election, in which event the Company shall issue Holder a number of shares of Common Stock computed using the following formula (a "Cashless Exercise"):

$$X = Y (A-B)/A$$

where: X = the number of shares of Common Stock to be issued to Holder.

Y = the number of shares of Common Stock for which this Warrant is being Exercised.

A = the Market Price of one (1) share of Common Stock (for purposes of this Section 3(a)(ii), where "Market Price," as of any date, means the Volume Weighted Average Price (as defined herein) of the Company's Common Stock during the fifteen (15) consecutive Trading Day period immediately preceding the date in question.

B = the Exercise Price.

As used herein, the "Volume Weighted Average Price" for any security as of any date means the volume weighted average sale price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg Financial Markets or an equivalent, reliable reporting service mutually acceptable to and hereafter designated by holders of a majority-in-interest of the Warrants and the Company ("Bloomberg"), or, if no volume weighted average sale price is reported for such security, then the last closing trade price of such security as reported by Bloomberg, or, if no last closing trade price is reported for such security by Bloomberg, the average of the bid prices of any market makers for such security that are listed in the over the counter market by the Financial Industry Regulatory Authority, Inc. or in the "pink sheets" by the Pink OTC Market, Inc. If the Volume Weighted Average Price cannot be calculated for such security on such date in the manner provided above, the volume weighted average price shall be the fair market value as mutually determined by the Company and the Holders of a majority in interest of the Warrants being Exercised for which the calculation of the volume weighted average price is required in order to determine the Exercise Price of such Warrants.

For purposes of Rule 144 and sub-section (d)(3)(ii) thereof, it is intended, understood and acknowledged that the Common Stock issuable upon Exercise of this Warrant in a Cashless Exercise transaction shall be deemed to have been acquired at the time this Warrant was issued. Moreover, it is intended, understood and acknowledged that the holding period for the Common Stock issuable upon Exercise of this Warrant in a Cashless Exercise transaction shall be deemed to have commenced on the date this Warrant was issued.

(b) Cashless Major *Exercise:* To the extent the Holder shall exercise this Warrant or any portion thereof as a Cashless Major Exercise pursuant to Section 5(c)(i) below, the Holder shall surrender this Warrant at the principal office of the Company together with the Exercise Form indicating that the Holder is exercising this Warrant (or such portion thereof) pursuant to a Cashless Major Exercise, in which event the Company shall issue a number of shares of Common Stock equal to the Black-Scholes Value (as defined in Section 5(c)(ii) below) of the Warrant (or such applicable portion being exercised) divided by 95% of the closing price of the Common Stock on the principal securities exchange or other securities market on which the Common Stock is then traded on the Trading Day immediately preceding the date on which the applicable Major Transaction is consummated (such number of shares, the "Black Scholes Shares Amount").

(c) Cashless Default Exercise. To the extent the Holder exercises this Warrant as a Cashless Default Exercise pursuant to Section 11(b)(i) below, the Holder shall surrender this Warrant to the principal office of the Company together with the Exercise Form indicating that the Holder is exercising this Warrant pursuant to a Cashless Default Exercise, in which event the Company shall issue to the Holder, within five (5) Trading Days of the applicable Default Notice, a number of shares of Common Stock (which shares shall be valued at 95% of the Volume Weighted Average Price for the five (5) Trading Days prior to the applicable Default Notice) equal to the greater of (A) the Black-Scholes Value (determined by use of the Black-Scholes Option Pricing Model using the criteria set

forth on Schedule I hereto) of the remaining unexercised portion of this Warrant on the date of such Default Notice and (B) the Black-Scholes Value (determined by use of the Black-Scholes Option Pricing Model using the criteria set forth on Schedule I hereto) of the remaining unexercised portion of this Warrant on the Trading Day immediately preceding the date that the Exercise Shares in respect of such Cashless Default Exercise are issued to the Holder.

(d) Dispute Resolution. In the case of a dispute as to the determination of the closing price or the Volume Weighted Average Price of the Company's Common Stock or the arithmetic calculation of the Exercise Price, Market Price, any Major Transaction Warrant Early Termination Price or the Black-Scholes Shares Amount, the Company shall submit the disputed determinations or arithmetic calculations via facsimile within two (2) business days of receipt, or deemed receipt, of the Exercise Notice, or Major Transaction Early Termination Notice, or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation within two (2) business days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) business days submit via facsimile (i) the disputed determination of the closing price or the Volume Weighted Average Price of the Company's Common Stock to an independent, reputable investment bank selected by the Company and approved by the Holder, which approval shall not be unreasonably withheld or (ii) the disputed arithmetic calculation of the Exercise Price, Market Price or any Major Transaction Warrant Early Termination Price to the Company's independent, outside accountant. The Company shall cause the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than five (5) business days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

4. Transfer and Registration.

(a) Transfer Rights. Subject to the provisions of Section 8 of this Warrant, this Warrant may be transferred on the books of the Company, in whole or in part, in person or by attorney, upon surrender of this Warrant properly completed and endorsed. This Warrant shall be canceled upon such surrender and, as soon as practicable thereafter, the person to whom such transfer is made shall be entitled to receive a new Warrant or Warrants as to the portion of this Warrant transferred, and Holder shall be entitled to receive a new Warrant as to the portion hereof retained.

(b) Registrable Securities. The Common Stock issuable upon the Exercise of this Warrant has registration rights pursuant to the Registration Rights Agreement.

5. Adjustments Upon Certain Events.

(a) Participation. The Holder, as the holder of this Warrant, shall be entitled to receive such dividends paid and distributions of any kind made to the holders of Common Stock of the Company to the same extent as if the Holder had Exercised this Warrant into Common Stock (without regard to any limitations on exercise herein or elsewhere and without regard to whether or not a sufficient number of shares are authorized and reserved to effect any such exercise and issuance) and had held such shares of Common Stock on the record date for such dividends and distributions. Payments under this Section 5(a) shall be made concurrently with the dividend or distribution to the holders of Common Stock.

(b) Recapitalization or Reclassification. If the Company shall at any time effect a stock split, payment of stock dividend, recapitalization, reclassification or other similar transaction of such character that the shares of Common Stock shall be changed into or become exchangeable for a larger or smaller number of shares, then upon the effective date thereof, the number of shares of Common Stock which Holder shall be entitled to purchase upon Exercise of this Warrant shall be increased or decreased, as the case may be, in direct proportion to the increase or decrease in the number of shares of Common Stock by reason of such stock split, payment of stock dividend, recapitalization, reclassification or similar transaction, and the Exercise Price shall be, in the case of an increase in the number of shares, proportionally decreased and, in the case of decrease in the number of shares, proportionally increased. The Company shall give Holder the same notice it provides to holders of Common Stock of any transaction described in this Section 5(b).

(c) Rights Upon Major Transaction.

(i) Major Transaction. Unless the Holder waives its rights to this Section 5(c) with respect to a Major Transaction (as defined below), in the event that a Major Transaction occurs, then (1) in the case of a Cash-Out Major Transaction and in the case of a Mixed Major Transaction to the extent of the percentage of the cash consideration in the Mixed Major Transaction (determined in accordance with the definition of a Mixed Major Transaction below), the Holder, at its option, may require the Company to redeem the Holder's outstanding Warrants in accordance with Section 5(c)(ii) below, and (2) in the case of all other Major Transactions and, in the case of a Mixed Major Transaction to the extent of the percentage of the consideration represented by securities of a Successor Entity in the Mixed Major Transaction, the Holder shall have the right to exercise this Warrant as a Cashless Major Exercise.

(A) a consolidation, merger, exchange of shares, recapitalization, reorganization, business combination or other similar event, (1) following which the holders of Common Stock immediately preceding such consolidation, merger, exchange, recapitalization, reorganization, combination or event either (a) no longer hold a majority of the shares of Common Stock or (b) no longer have the ability to elect a majority of the board of directors of the Company or (2) as a result of which shares of Common Stock shall be changed into (or the shares of Common Stock become entitled to receive) the same or a different number of shares of the same or another class or classes of stock or securities of the Company or another entity (collectively, a "Change of Control Transaction");

(B) a sale or transfer of more than 50% of the Company's assets or a sale or transfer of any assets or proprietary rights relating to Fanapt or Probuphine or that are material to the operations and business of the Company; provided, however, that except for a sale of all or substantially all of the Company's assets, a collaborative arrangement, licensing agreement, joint venture or partnership or similar business arrangement providing for the development or commercial exploitation or, or right to develop or commercially exploit, the technology, intellectual property or products of the Company (including arrangements that involve the assignment or licensing of any existing or newly developed intellectual property under such arrangements) whereby income or profits are to be shared (including by lump sum royalty or running royalty) with any other entity shall not constitute a Major Transaction.

(C) a purchase, tender or exchange offer made to the holders of outstanding shares of Common Stock, such that following such purchase, tender or exchange offer a Change of Control Transaction shall have occurred; or

(D) the liquidation, bankruptcy, insolvency, dissolution or winding-up (or the occurrence of any analogous proceeding) affecting the Company.

(ii) Notice; Major Transaction Early Termination Right; Notice of Cashless Major Exercise. At least thirty (30) days prior to the consummation of any Major Transaction, but, in any event, on the first to occur of (x) the date of the public announcement of such Major Transaction if such announcement is made before 4:00 p.m., New York City time, or (y) the day following the public announcement of such Major Transaction if such announcement is made on and after 4:00 p.m., New York City time, the Company shall deliver written notice thereof via facsimile and overnight courier to the Holder (a "Major Transaction Notice"). At any time during the period beginning after the Holder's receipt of a Major Transaction Notice and ending five (5) Trading Days prior to the consummation of such Major Transaction (the "Early Termination Period"), the Holder may require the Company to redeem (an "Early Termination Upon Major Transaction") all or any portion of this Warrant not eligible to be treated as a Cashless Major Exercise (without taking into consideration the 9.98% Cap) by delivering written notice thereof ("Major Transaction Early Termination Notice") to the Company, which Major Transaction Early Termination Notice shall indicate the portion of the principal amount (the "Early Termination Principal Amount") of the Warrant that the Holder is electing to have redeemed. The portion of this Warrant subject to early termination pursuant to this Section 5(c)(ii) (the "Redeemable Shares"), shall be redeemed by the Company at a price (the "Major Transaction Warrant Early Termination Price") payable in cash equal to the "Black Scholes Value" of the Redeemable Shares determined by use of the Black Scholes Option Pricing Model using the criteria set forth in Schedule 1 hereto (the "Black Scholes Value").

To the extent the Holder shall elect to effect a Cashless Major Exercise in respect of a Major Transaction, the Holder shall deliver its exercise notice in accordance with Section 3(b), within the Early Termination Period.

(iii) Payment of Major Transaction Warrant Early Termination Price. Following the receipt of a Major Transaction Early Termination Notice or a Cashless Major Exercise from the Holder, the Company shall not effect a Major Transaction that is being treated as an early termination or is eligible to be treated as a Cashless Major Exercise unless such Major Transaction shall be consummated pursuant to written agreements, including with any Successor Entity in such Major Transaction, providing that it shall be a condition precedent to the consummation of such Major Transaction that the Holder be issued or paid, as the case may be, an amount in shares of Common Stock or cash, as applicable, equal to the Major Transaction Warrant Early Termination Price and/or applicable Exercise Shares. Concurrently upon closing of such Major Transaction, the Company shall cause to be paid the Major Transaction Warrant Early Termination Price and/or delivered the applicable Exercise Shares to the Holder.

(iv) Injunction. Following the receipt of a Major Transaction Early Termination Notice or notice of a Cashless Major Exercise from the Holder, in the event that the Company attempts to consummate a Major Transaction without the written agreements in respect of such Major Transaction providing, in accordance with Section 5(c)(iii) above, for the delivery to the Holder of the Major Transaction Warrant Early Termination Price or applicable Exercise Shares, as applicable, prior to consummation of such Major Transaction, the Holder shall have the right to apply for an injunction in any state or federal courts sitting in the City of New York, borough of Manhattan to prevent the closing of such Major Transaction until the Major Transaction Warrant Early Termination Price is paid to the Holder, in full, or the applicable Exercise Shares are delivered, as applicable.

An early termination required by this Section 5(c) shall be made in accordance with the provisions of Section 12 and shall have priority to payments to holders of Common Stock in connection with a Major Transaction to the extent an early termination required by Section 5(c)(ii) are deemed or determined by a court of competent jurisdiction to be prepayments of the Warrant by the Company, such early termination shall be deemed to be voluntary prepayments. Notwithstanding anything to the contrary in this Section 5, until the Major Transaction Warrant Early Termination Price is paid in full, this Warrant may be exercised, in whole or in part, by the Holder into shares of Common Stock, or in the event the Exercise Date is after the consummation of the Major Transaction, shares of publicly traded common stock (or their equivalent) of the Successor Entity pursuant to Section 5(c). The parties hereto agree that in the event of the Company's early termination of any portion of the Warrant under this Section 5(c), the Holder's damages would be uncertain and difficult to estimate because of the parties' inability to predict future interest rates and the uncertainty of the availability of a suitable substitute investment opportunity for the Holder. Accordingly, any premium due under this Section 5(c) is intended by the parties to be, and shall be deemed, a reasonable estimate of the Holder's actual loss of its investment opportunity and not as a penalty.

For purposes hereof:

"Cash-Out Major Transaction" means a Major Transaction in which the consideration payable to holders of Common Stock in connection with the Major Transaction consists solely of cash.

"Cashless Default Exercise" shall mean an exercise of this Warrant as a "Cashless Default Exercise" in accordance with Section 3(c) and 11(b) hereof.

"Cashless Major Exercise" shall mean an exercise of this Warrant or portion thereof as a "Cashless Major Exercise" in accordance with Section 3(b) and 5(c)(i) hereof.

"Eligible Market" means the New York Stock Exchange, Inc., the NYSE Arca, the NASDAQ Capital Market, the NASDAQ Global Market, the NASDAQ Global Select Market or the NYSE Alternext U.S.

"Mixed Major Transaction" means a Major Transaction in which the consideration payable to the shareholders of the Company consists partially of cash and partially of securities of a Successor Entity. If the Successor Entity is a Publicly Traded Successor Entity or is traded or quoted on the over-the-counter Bulletin Board or the "pink sheet" market, the percentage of consideration represented by securities of such Successor Entity shall be equal to the percentage that the value of the aggregate anticipated number of shares of the Publicly Traded Successor Entity to be issued to holders of Common Stock of the Company represents in comparison to the aggregate value of all consideration, including cash consideration, in such Mixed Major Transaction, as such values are set forth in any definitive agreement for the Mixed Major Transaction that has been executed at the time of the first public announcement of the Major Transaction or, if no such value is determinable from such definitive agreement, based

on the closing market price for shares of the publicly traded Successor Entity on its principal securities exchange, or in the case of Successor Entity that is traded or quoted on the over-the-counter Bulletin Board or the "pink-sheet" market based on the Volume Weighted Average Price for shares of such Successor Entity, in either case on the Trading Day preceding the first public announcement of the Mixed Major Transaction. If the Successor Entity is a Private Successor Entity, the percentage of consideration represented by securities of such Successor Entity shall be determined in good-faith by the Company's Board of Directors

"Parent Entity" of a Person means an entity that, directly or indirectly, controls the applicable Person and whose common stock or equivalent equity security is quoted or listed on an Eligible Market, or, if there is more than one such Person or Parent Entity, the Person or Parent Entity with the largest public market capitalization as of the date of consummation of a Major Transaction.

"Person" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

"Private Successor Entity" means a Successor Entity that is not a Publicly Traded Successor Entity or whose shares are not traded on quoted on the over-the-counter Bulletin Board or the "pink-sheet" market.

"Publicly Traded Successor Entity" means a Successor Entity that is a publicly traded corporation whose common stock is quoted on or listed for trading on an Eligible Market (as defined above).

"Successor Entity" means any Person purchasing the Company's assets or Common Stock, or any successor entity resulting from such Major Transaction, or if the Warrant is to be exercisable for shares of capital stock of its Parent Entity (as defined above), its Parent Entity.

(d) Exercise Price Adjusted. As used in this Warrant, the term "Exercise Price" shall mean the purchase price per share specified in Section 3(a) of this Warrant, until the occurrence of an event stated in this Section 5 or otherwise set forth in this Warrant, and thereafter shall mean said price as adjusted from time to time in accordance with the provisions of said subsection. No adjustment made pursuant to any provision of this Section 5 shall have the net effect of increasing the Exercise Price in relation to the split adjusted and distribution adjusted price of the Common Stock.

(e) Adjustments: Additional Shares, Securities or Assets. In the event that at any time, as a result of an adjustment made pursuant to this Section 5 or otherwise, Holder shall, upon Exercise of this Warrant, become entitled to receive shares and/or other securities or assets (other than Common Stock) then, wherever appropriate, all references herein to shares of Common Stock shall be deemed to refer to and include such shares and/or other securities or assets; and thereafter the number of such shares and/or other securities or assets shall be subject to adjustment from time to time in a manner and upon terms as nearly equivalent as practicable to the provisions of this Section 5.

(f) *Adjustment of Exercise Price upon Issuance of Common Stock, Options, Convertible Securities, Etc.* If at any time after the Date of Issuance for so long as any Warrants are outstanding, the Company (A) issues or sells any Common Stock, Convertible Securities, warrants, or Options or (B) directly or indirectly effectively reduces the conversion, exercise or exchange price for any Convertible Securities or Options which are currently outstanding, at or to an effective Per Share Selling Price (as defined below) which is less than the greater of (I) the closing sale price per share of the Common Stock on the Eligible Market which the Common Stock is traded, or in the case the Common Stock is traded or quoted on the over-the-counter Bulletin Board or the "pink-sheet" market based on the Volume Weighted Average Price for shares of the Common Stock, in either case on the Trading Day immediately preceding such issue or sale ("Fair Market Price"), or (II) the Exercise Price, then in each such case the Exercise Price in effect immediately prior to such issue or sale date, as applicable, shall be automatically reduced effective concurrently with such issue or sale to an amount determined by multiplying the Exercise Price then in effect by a fraction, (x) the numerator of which shall be the sum of (1) the number of shares of Common Stock outstanding immediately prior to such issue or sale, plus (2) the number of shares of Common Stock which the aggregate consideration received by the Company for such additional shares would purchase at such Fair Market Price or Exercise Price, as the case may be, and (y) the denominator of which shall be the number of shares of Common Stock of the Company outstanding immediately after such issue or sale. Provision (I) of this Section 5(f) shall not apply until such time as the Company has issued in one or a series of transactions after the date of this Warrant, an

aggregate number of shares of Common Stock in excess of 40% of the Company's outstanding Common Stock as of the date hereof (subject to any appropriate adjustments of the type referred to in Section 5(b)) (the "Issuance Threshold") as of the date hereof, and then such provision shall apply only to the extent of issuances in excess of the Issuance Threshold, and shall not apply to Exempt Issuances. Provision (II) of this Section 5(f) shall apply and be effective from and after the date hereof without regard to the Issuance Threshold and shall not apply to Exempt Issuances covered by the provisions of clauses (a) and (b) of the next succeeding paragraph.

As used herein, "Exempt Issuance" means the issuance of (a) shares of Common Stock or Options to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose in the aggregate of 10% of the current outstanding shares of Common Stock, (b) Common Stock, Convertible Securities, warrants, or Options upon the exercise or exchange of or conversion of any securities issued hereunder and/or other securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities and (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

For the purposes of the foregoing adjustments, in the case of the issuance of any Convertible Securities or Options, the maximum number of shares of Common Stock issuable upon exercise, exchange or conversion of such Convertible Securities or Options shall be deemed to be outstanding, provided that no further adjustment shall be made upon the actual issuance of Common Stock upon exercise, exchange or conversion of such Convertible Securities or Options, and provided further that to the extent such Convertible Securities or Options expire or terminate unconverted or unexercised, then at such time the Exercise Price shall be readjusted as if such portion of such Convertible Securities or Options had not been issued.

For purposes of this Section 5(f), if an event occurs that triggers more than one of the above adjustment provisions, then only one adjustment shall be made and the calculation method which yields the greatest downward adjustment in the Exercise Price shall be used.

For purposes of determining the adjusted Exercise Price under this Section 5(f), the following shall be applicable:

(i) *Record Date*. If the Company takes a record of the holders of Common Stock for the purpose of entitling them (1) to receive a dividend or other distribution payable in Common Stock, Options or in Convertible Securities or (2) to subscribe for or purchase Common Stock, Options or Convertible Securities, then such record date will be deemed to be the date of the issue or sale of the Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

(ii) *Other Events*. If any event occurs of the type contemplated by the provisions of this Section 5(f) but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price so as to protect the rights of the Holder under this Warrant; provided that no such adjustment will increase the Exercise Price as otherwise determined pursuant to this Section 5(f).

For purposes hereof:

"Convertible Securities" means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for Common Stock.

"Options" means any rights, warrants or options to subscribe for or purchase Common Stock or Convertible Securities.

"Per Share Selling Price" shall include the amount actually paid by third parties for each share of Common Stock in a sale or issuance by the Company. In the event a fee is paid by the Company in connection with such transaction directly or indirectly to such third party or its affiliates, any such fee shall be deducted from the selling price pro rata to all shares sold in the transaction to arrive at the Per Share Selling Price. A sale of shares of Common Stock shall include the sale or issuance of Convertible Securities or Options, and in such circumstances the Per Share Selling Price of the Common Stock covered thereby shall also include the exercise, exchange or conversion price thereof (in addition to the consideration received by the Company upon such sale or issuance less the fee amount as provided above). In case of any such security issued in a transaction in which the purchase price or the conversion, exchange or exercise price is directly or indirectly subject to adjustment or reset based on a future date, future trading prices of the Common Stock, specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock, or otherwise (but excluding standard stock split anti-dilution provisions or weighted-average anti-dilution provisions similar to that set forth herein, provided that any actual reduction of such price under any such security pursuant to such weighted-average anti-dilution provision shall be included and cause an adjustment hereunder), the Per Share Selling Price shall be deemed to be the lowest conversion, exchange, exercise or reset price at which such securities are converted, exchanged, exercised or reset or might have been converted, exchanged, exercised or reset, or the lowest adjustment, as the case may be, over the life of such securities. If shares are issued for a consideration other than cash, the Per Share Selling Price shall be the fair value of such consideration as determined in good faith by independent certified public accountants mutually acceptable to the Company and the Holder. In the event the Company directly or indirectly effectively reduces the conversion, exercise or exchange price for any Convertible Securities or Options which are currently outstanding, then the Per Share Selling Price shall equal such effectively reduced conversion, exercise or exchange price.

(g) Subsequent Rights Offerings. If the Company, at any time prior to the date that all of the Warrants have been Exercised, redeemed or otherwise satisfied in accordance with their terms, shall issue rights, options or warrants to all holders of Common Stock (and not to Holders) entitling them to subscribe for or purchase shares of Common Stock at a price per share (the "Base Rights Offering Price") that is lower than the Volume Weighted Average Price on the record date referenced above, then the Exercise Price then in effect shall be reduced to the Base Rights Offering Price. Such adjustment shall be made whenever such rights or warrants are issued, and shall become effective immediately after the record date for the determination of stockholders entitled to receive such rights, options or warrants. No adjustment shall be made hereunder if such adjustment would result in an increase of the Exercise Price then in effect.

(h) Additional Adjustment to Exercise Price. In the event that the Final Titan Price (as defined below) is 15% or more below the Base Titan Price (as defined below), then, effective as of the end of the Measurement Period (as defined below), the Exercise Price shall be adjusted to the Final Titan Price; provided, however, that in no event shall the Exercise Price be adjusted to an amount above the Exercise Price in effect as of the Measurement Date. As used herein (1) Base Titan Price shall mean the closing price of the Common Stock on the principal market on which the Common Stock is traded or listed on the Measurement Date reduced or increased, as the case may be, by an amount equal to the product of such closing price and the S&P Adjustment, (2) Final Titan Price shall mean (A) the average of the Closing Market Price of the Common Stock during each of the Trading Days during the Measurement Period multiplied by (B) 1.1, (3) S&P Adjustment shall mean the percentage increase or decrease (either negative or positive as the case may be) in the S&P Index during the Measurement Period, (4) Measurement Date shall mean the Trading Day immediately preceding the date on which the Company publicly discloses the top line results of the Phase 3 Study of Probuphine and (5) Measurement Period shall mean the 15 full Trading Days commencing with the first full Trading Day following the Measurement Date.

(i) Notice of Adjustments. Whenever the Exercise Price is adjusted pursuant to the terms of this Warrant, the Company shall promptly mail to the Holder a notice (an "Exercise Price Adjustment Notice") setting forth the Exercise Price after such adjustment and setting forth a statement of the facts requiring such adjustment. The Company shall, upon the written request at any time of the Holder, furnish to such Holder a like Warrant setting forth (i) such adjustment or readjustment, (ii) the Exercise Price at the time in effect and (iii) the number of shares of Common Stock and the amount, if any, of other securities or property which at the time would be received upon Exercise of the Warrant. For purposes of clarification, whether or not the Company provides an Exercise Price

Adjustment Notice pursuant to this Section 5(i), upon the occurrence of any event that leads to an adjustment of the Exercise Price, the Holder would be entitled to receive a number of Exercise Shares based upon the new Exercise Price, as adjusted, for exercises occurring on or after the date of such adjustment, regardless of whether the Holder accurately refers to the adjusted Exercise Price in the Exercise Form.

(j) Purchase Rights. In addition to any other adjustments described herein, if at any time the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the proportionate number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.

6. Fractional Interests.

No fractional shares or scrip representing fractional shares shall be issuable upon the Exercise of this Warrant, but on Exercise of this Warrant, Holder may purchase only a whole number of shares of Common Stock. If, on Exercise of this Warrant, Holder would be entitled to a fractional share of Common Stock or a right to acquire a fractional share of Common Stock, such fractional share shall be disregarded and the number of shares of Common Stock issuable upon Exercise shall be the next higher whole number of shares.

7. Reservation of Shares.

From and after the date hereof, the Company shall at all times reserve for issuance such number of authorized and unissued shares of Common Stock (or other securities substituted therefor as herein above provided) as shall be sufficient for the Exercise of this Warrant and payment of the Exercise Price. If at any time the number of shares of Common Stock authorized and reserved for issuance is below the number of shares sufficient for the Exercise of this Warrant (a "Share Authorization Failure") (based on the Exercise Price in effect from time to time), the Company will promptly take all corporate action necessary to authorize and reserve a sufficient number of shares, including, without limitation, calling a special meeting of stockholders to authorize additional shares to meet the Company's obligations under this Section 7, in the case of an insufficient number of authorized shares, and using its best efforts to obtain stockholder approval of an increase in such authorized number of shares. The Company covenants and agrees that upon the Exercise of this Warrant, all shares of Common Stock issuable upon such Exercise shall be duly and validly issued, fully paid and nonassessable and not subject to preemptive rights, rights of first refusal or similar rights of any Person.

8. Restrictions on Transfer.

(a) Registration or Exemption Required. This Warrant has been issued in a transaction exempt from the registration requirements of the Securities Act by virtue of Regulation D and exempt from state registration or qualification under applicable state laws. None of the Warrant, the Exercise Shares or Failure Payment Shares may be pledged, transferred, sold or assigned except pursuant to an effective registration statement or an exemption to the registration requirements of the Securities Act and applicable state laws including, without limitation, a so-called "4(1) and a half" transaction.

(b) Assignment. Subject to Section 8(a), the Holder may sell, transfer, assign, pledge, or otherwise dispose of this Warrant, in whole or in part. Holder shall deliver a written notice to Company, substantially in the form of the Assignment attached hereto as Exhibit B, indicating the Person or Persons to whom the Warrant shall be assigned and the respective number of warrants to be assigned to each assignee. The Company shall effect the assignment within three (3) business days (the "Transfer Delivery Period"), and shall deliver to the assignee(s) designated by Holder a Warrant or Warrants of like tenor and terms for the appropriate number of shares. This Warrant and the rights evidenced hereby shall inure to the benefit of and be binding upon the successors and assigns of the Holder. The provisions of this Warrant are intended to be for the benefit of all Holders from time to time of this Warrant, and shall be enforceable by any such Holder. For avoidance of doubt, in the event Holder notifies the Company that

such sale or transfer is a so called "4(1) and half" transaction, the parties hereto agree that a legal opinion from outside counsel for the Holder delivered to counsel for the Company substantially in the form attached hereto as Exhibit C shall be the only requirement to satisfy an exemption from registration under the Securities Act to effectuate such "4(1) and half" transaction.

9. Noncircumvention.

The Company hereby covenants and agrees that the Company will not, by amendment of its certificate of incorporation, bylaws or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issue or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, and (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant.

10. Events of Failure; Definition of Black Scholes Value.

(a) Definition.

The occurrence of each of the following shall be considered to be an "Event of Failure."

(i) A Delivery Failure occurs, where a "Delivery Failure" shall be deemed to have occurred if the Company fails to use its best efforts to deliver Exercise Shares to the Holder within any applicable Delivery Period;

(ii) A Legend Removal Failure occurs, where a "Legend Removal Failure" shall be deemed to have occurred if the Company fails to use its best efforts to issue this Warrant and/or Exercise Shares without a restrictive legend, or fails to use it best efforts to remove a restrictive legend, when and as required under Section 2(e) hereof;

(iii) a Transfer Delivery Failure occurs, where a "Transfer Delivery Failure" shall be deemed to have occurred if the Company fails to use its best efforts to deliver a Warrant within any applicable Transfer Delivery Period; and

(iv) a Registration Failure (as defined below).

For purpose hereof, "Registration Failure" means that (A) the Company fails to file with the SEC on or before the Filing Deadline (as defined in the Registration Rights Agreement) any Registration Statement required to be filed pursuant to Section 2(a) of the Registration Rights Agreement, (B) the Company fails to use its commercially reasonable best efforts to obtain effectiveness with the SEC, prior to the Registration Deadline (as defined in the Registration Rights Agreement), and if such Registration Statement is not so filed prior to the Registration Deadline, as soon as possible thereafter, of any Registration Statement (as defined in the Registration Rights Agreement) that are required to be filed pursuant to Section 2(a) of the Registration Rights Agreement, or fails to use best efforts to keep such Registration Statement current and effective as required in Section 3 of the Registration Rights Agreement, (C) the Company fails to file any additional Registration Statements required to be filed pursuant to Section 2(a)(ii) of the Registration Rights Agreement on or before the Additional Filing Deadline or fails to use its commercially reasonable best efforts to cause such new Registration Statement to become effective on or before the Additional Registration Deadline, and if such effectiveness does not occur within such period, as soon as possible thereafter, (D) the Company fails to file any amendment to any Registration Statement, or any additional Registration Statement required to be filed pursuant to Section 3(b) of the Registration Rights Agreement within twenty (20) days of the applicable Registration Trigger Date (as defined in the Registration Rights Agreement), or fails to use its commercially reasonable best efforts to cause such amendment and/or new Registration Statement to

become effective within sixty (60) days of the applicable Registration Trigger Date, and, if such effectiveness does not occur within such period, as soon as possible thereafter, (E) any Registration Statement required to be filed under the Registration Rights Agreement, after its initial effectiveness and during the Registration Period (as defined in the Registration Rights Agreement), lapses in effect or sales of all of the Registrable Securities (as defined in the Registration Rights Agreement) cannot otherwise be made thereunder (whether by reason of the Company's failure to amend or supplement the prospectus included therein in accordance with the Registration Rights Agreement, the Company's failure to file and, use best efforts to obtain effectiveness with the SEC of an additional Registration Statement or amended Registration Statement required pursuant to Sections 2(a)(ii) or 3(b) of the Registration Rights Agreement, as applicable, or otherwise), and (F) the Company fails to provide a commercially reasonable written response to any comments to any Registration Statement submitted by the SEC within twenty (20) days of the date that such SEC comments are received by the Company.

(b) Failure Payments; Black-Scholes Determination. The Company understands that any Event of Failure (as defined above) could result in economic loss to the Holder. In the event that any Event of Failure occurs, as compensation to the Holder for such loss, the Company agrees to pay (as liquidated damages and not as a penalty) to the Holder an amount payable, at the Company's option, either (i) in cash or (ii) in shares of Common Stock ("Failure Payment Shares") that are valued for these purposes at 95% of the Volume Weighted Average Price on the date of such calculation ("Failure Payments"), in each case equal to 18% per annum (or the maximum rate permitted by applicable law, whichever is less) of the Black-Scholes value (as determined below) of the remaining unexercised portion of this Warrant on the date of such Event of Failure (as recalculated on the first business day of each month thereafter for as long as Failure Payments shall continue to accrue), which shall accrue daily from the date of such Event of Failure until the Event of Failure is cured, accruing daily and compounded monthly, provided, however, the Holder shall only receive up to such amount of shares of Common Stock in respect of Failure Payments such that Holder and any other persons or entities whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (including shares held by any "group" of which the Holder is a member, but excluding shares beneficially owned by virtue of the ownership of securities or rights to acquire securities that have limitations on the right to convert, exercise or purchase similar to the limitation set forth herein) shall not collectively beneficially own greater than 9.98% of the total number of shares of Common Stock of the Company then issued and outstanding. For purposes of clarification, it is agreed and understood that Failure Payments shall continue to accrue following any Event of Default until the applicable Default Amount is paid in full.

Notwithstanding the above, in the event that the Company (i) has, by the Filing Deadline (as defined the Registration Rights Agreement) filed a Registration Statement (as defined in the Registration Rights Agreement) covering the number of shares required by the Registration Rights Agreement, and (ii) has responded in writing to any comments to the Registration Statement that the Company has received from the SEC, within seven (7) Business Days of such receipt (unless the comment requires a change to previously filed financial statements, in which case the Company will respond diligently within fifteen (15) business days), and nevertheless the SEC has not declared effective a Registration Statement covering the full number of Warrant Shares issuable upon exercise of the Warrants by the Registration Deadline (as defined in the Registration Rights Agreement) then, the Failure Payments attributable to such late Registration Effectiveness shall be reduced from 18% to 15% (calculated as set forth above). The Company shall satisfy any Failure Payments under this Section pursuant to Section 10(c) below. Failure Payments are in addition to any Shares that the Holder is entitled to receive upon Exercise of this Warrant.

For purposes hereof, the "Black-Scholes" value of a Warrant shall be determined by use of the Black Scholes Option Pricing Model using the criteria set forth on Schedule 1 hereto.

(c) Payment of Accrued Failure Payments. The Failure Payment Shares representing accrued Failure Payments for each Event of Failure shall be issued and delivered on or before the fifth (5th) business day of each month following a month in which Failure Payments accrued. Nothing herein shall limit the Holder's right to pursue actual damages (to the extent in excess of the Failure Payments) for the Company's Event of Failure, and the Holder shall have the right to pursue all remedies available at law or in equity (including a decree of specific performance and/or injunctive relief). Notwithstanding the above, if a particular Event of Failure results in an Event of Default pursuant to Section 11 hereof, then the Failure Payment, for that Event of Failure only, shall be considered to have been satisfied upon payment to the Holder of an amount equal to the greater of (i) the Failure Payment, or (ii) the Default Amount, payable in accordance with Section 11.

(d) Maximum Interest Rate. Nothing contained herein or in any document referred to herein or delivered in connection herewith shall be deemed to establish or require the payment of a rate of interest or other charges in excess of the maximum permitted by applicable law. In the event that the rate of interest or dividends required to be paid or other charges hereunder exceed the maximum permitted by such law, any payments in excess of such maximum shall be credited against amounts owed by the Company to the Holder and thus refunded to the Company.

11. Default.

(a) Events Of Default. Each of the following events shall be considered to be an "Event of Default," unless waived by the Holder:

(i) *Failure To Effect Registration.* With respect to all Registration Failures, a Registration Failure occurs and remains uncured for a period of more than thirty (30) days (or forty five (45) days in the case where the Company (i) has, by the Filing Deadline (as defined the Registration Rights Agreement) filed a Registration Statement (as defined in the Registration Rights Agreement) covering this Warrant and the number of shares required by the Registration Rights Agreement, and (ii) has responded in writing to any comments to the Registration Statement that the Company has received from the SEC, within seven (7) Business Days of such receipt (unless the comment requires a change to a previously filed financial statements, in which case the Company will respond diligently within fifteen (15) business days), and nevertheless the SEC has not declared effective a Registration Statement covering this Warrant and the Shares by the Registration Deadline (as defined in the Registration Rights Agreement)), and such Registration Failure relates solely to the Company's failure to have the Registration Statement declared effective by the Registration Deadline (as defined in the Registration Rights Agreement) and with respect to a Registration Failure provided in clause (E) of the definition of "Registration Failure", such Registration Failure occurs and remains uncured for a period of more than thirty (30) days.

(ii) Failure To Deliver Common Stock. A Delivery Failure (as defined above) occurs and remains uncured for a period of more than twenty (20) days; or at any time, the Company announces or states in writing that it will not honor its obligations to issue shares of Common Stock to the Holder upon Exercise by the Holder of the Exercise rights of the Holder in accordance with the terms of this Warrant.

(iii) Legend Removal Failure. A Legend Removal Failure (as defined above) occurs and remains uncured for a period of twenty (20) days;

(iv) Corporate Existence; Major Transaction. The Company has failed to place the Major Transaction Warrant Early Termination Price or the Exercise Shares issuable upon exercise of a Cashless Major Exercise, as the case may be, into escrow or to instruct the escrow agent to release such amount or such shares, as the case may be, to the Holder pursuant to Section 5(c)(iii);

(v) Securities Exchange Listing. The Company has failed, in the event the closing price for the Common Stock on the principal securities exchange or other securities market on which the Common Stock is then being traded or quoted is greater than $2.50 for 10 consecutive Trading Days (the "Ten Day Period"), to, following such Ten Day Period, use its best efforts to cause the shares of Common Stock to be listed traded, or publicly quoted on an Eligible Exchange as soon thereafter as reasonably practicable but in no event more than one hundred and twenty (120) days thereafter; and

(vi) Exchange Act Registration. The Common Stock ceases to be registered under Section 12 of the Exchange Act.

(b) Mandatory Early Termination.

(i) Mandatory Early Termination Amount; Cashless Default Exercise. If any Events of Default shall occur then, unless waived by the Holder, upon the occurrence and during the continuation of any Event of Default, at the option of the Holder, such option exercisable through the delivery of written notice to the Company by such Holder (the "Default Notice"), the Company shall have the right to terminate the outstanding amount of this Warrant and pay to the Holder (a "Mandatory Early Termination"), in full satisfaction of its obligations hereunder by delivery of a notice to such effect to the Holder within two (2) business days following receipt of the Default Notice, an amount

payable in cash (the "Mandatory Early Termination Amount" or the "Default Amount") equal to the greater of (i) the Black-Scholes value (as determined in accordance with Section 10(b)) of the remaining unexercised portion of this Warrant on the date of such Default Notice and (ii) the Black-Scholes value (also as determined in accordance with Section 10(b)) of the remaining unexercised portion of this Warrant on the Trading Day immediately preceding the date that the Mandatory Early Termination Amount is paid to the Holder. In the event the Company does not exercise its right to consummate a Mandatory Early Termination, then the Holder shall have the right to exercise this Warrant pursuant to a Cashless Default Exercise in accordance with Section 3(c) above.

The Mandatory Early Termination Amount shall be payable within five (5) business days following the date of the applicable Default Notice.

(ii) Liquidated Damages. The parties hereto acknowledge and agree that the sums payable as Failure Payments or pursuant to a Mandatory Early Termination shall give rise to liquidated damages and not penalties. The parties further acknowledge that (i) the amount of loss or damages likely to be incurred by the Holder is incapable or is difficult to precisely estimate, (ii) the amounts specified bear a reasonable proportion and are not plainly or grossly disproportionate to the probable loss likely to be incurred by the Holder, and (iii) the parties are sophisticated business parties and have been represented by sophisticated and able legal and financial counsel and negotiated this Agreement at arm's length.

The Default Amount, together with all other amounts payable hereunder, shall immediately become due and payable, all without demand, presentment or notice, all of which hereby are expressly waived, together with all costs, including, without limitation, legal fees and expenses, of collection, and the Holder shall be entitled to exercise all other rights and remedies available at law or in equity.

(c) [Intentionally left blank]

(d) Injunction And Posting Of Bond. In the event that an Event of Default pertains to the Company's failure to deliver unlegended shares of Common Stock to the Holder pursuant to a Warrant Exercise, legend removal request, or otherwise, the Company may not refuse such unlegended share delivery based on any claim that such Holder or any one associated or affiliated with such Holder has been engaged in any violation of law, unless an injunction from a court, on prior notice to Holder, restraining and or enjoining Exercise of all or part of said Warrant shall have been sought and obtained by the Company and the Company has posted a surety bond (a "Surety Bond") for the benefit of such Holder in the amount of the aggregate Surety Bond Value (as defined below) of all of the Holder's Warrants, which Surety Bond shall remain in effect until the completion of litigation of the dispute and the proceeds of which shall be payable to such Holder to the extent Holder obtains judgment.

"Surety Bond Value," for the Warrant shall mean 130% of the Black-Scholes value of the remaining unexercised portion of this Warrant on the Trading Day immediately preceding the date that such bond goes into effect).

(e) Remedies, Other Obligations, Breaches And Injunctive Relief. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant, the Facility Agreement and the Registration Rights Agreement, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

12. Holder's Early Terminations.

(a) Mechanics of Holder's Early Terminations. In the event that the Company does not deliver the applicable Major Transaction Warrant Early Termination Price or Default Amount or the Exercise Shares in respect of a Cashless Major Exercise or a Cashless Default Exercise, as the case may be, to the Holder within the time period or as otherwise required pursuant to the terms hereof, at any time thereafter the Holder shall have the option, upon

notice to the Company, in lieu of early termination, Cashless Major Exercise, or Cashless Default Exercise, as the case may be, to require the Company to promptly return to the Holder all or any portion of this Warrant that was submitted for early termination or exercise. Upon the Company's receipt of such notice, (x) the applicable early termination or exercise, as the case may be, shall be null and void with respect to such applicable portion of this Warrant, (y) the Company shall immediately return this Warrant, or issue a new Warrant to the Holder representing the portion of this Warrant that was submitted for early termination, or exercise and (z) the Exercise Price of this Warrant or such new Warrant shall be adjusted to the lesser of (A) the Exercise Price as in effect on the date on which the applicable early termination, default, or exercise notice, as the case may be, is voided and (B) the lowest closing price for the Common Stock on the principal securities exchange or other securities market on which the Common Stock is then being traded or quoted, during the period beginning on and including the date on which the applicable early termination, default, or exercise notice, as the case may be, is delivered to the Company and ending on and including the date on which the applicable early termination or exercise is voided. The Holder's delivery of a notice voiding an early termination, or exercise and exercise of its rights following such notice shall not affect the Company's obligations to make any payments of Failure Payments which have accrued prior to the date of such notice with respect to the Warrant subject to such notice.

13. Benefits of this Warrant.

Nothing in this Warrant shall be construed to confer upon any person other than the Company and Holder any legal or equitable right, remedy or claim under this Warrant and this Warrant shall be for the sole and exclusive benefit of the Company and Holder.

14. Governing Law.

All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. The parties hereby waive all rights to a trial by jury. If either party shall commence an action or proceeding to enforce any provisions of this Agreement, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

15. Loss of Warrant.

Upon receipt by the Company of evidence of the loss, theft, destruction or mutilation of this Warrant, and (in the case of loss, theft or destruction) of indemnity or security reasonably satisfactory to the Company, and upon surrender and cancellation of this Warrant, if mutilated, the Company shall execute and deliver a new Warrant of like tenor and date.

16. Notice or Demands.

Notices or demands pursuant to this Warrant to be given or made by Holder to or on the Company shall be sufficiently given or made if sent by certified or registered mail, return receipt requested, postage prepaid, and

addressed, until another address is designated in writing by the Company, to the address set forth in Section 2(a) above. Notices or demands pursuant to this Warrant to be given or made by the Company to or on Holder shall be sufficiently given or made if sent by certified or registered mail, return receipt requested, postage prepaid, and addressed, to the address of Holder set forth in the Company's records, until another address is designated in writing by Holder.

IN WITNESS WHEREOF, the undersigned has executed this Warrant as of the 15th day of March, 2011.

TITAN PHARMACEUTICALS, INC.

By: _____

Print Name:
Title:

EXHIBIT A

EXERCISE FORM FOR WARRANT

TO: TITAN PHARMACEUTICALS, INC.

CHECK THE APPLICABLE BOX:

☐ ***Cash Exercise or Cashless Exercise***

The undersigned hereby irrevocably exercises the attached warrant (the "Warrant") with respect to shares of Common Stock (the "Common Stock") of Titan Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and, if pursuant to a Cashless Exercise, herewith makes payment of the Exercise Price with respect to such shares in full, all in accordance with the conditions and provisions of said Warrant.

☐ ***Cashless Major Exercise***

The undersigned hereby irrevocably exercises the Warrant with respect to ____% of the Warrant currently outstanding pursuant to a Cashless Major Exercise in accordance with the terms of the Warrant.

☐ ***Cashless Default Exercise***

The undersigned hereby irrevocably exercises the Warrant pursuant to a Cashless Default Exercise, in accordance with the terms of the Warrant.

The undersigned requests that any stock certificates for such shares be issued free of any restrictive legend, if appropriate, and a warrant representing any unexercised portion hereof be issued, pursuant to the Warrant in the name of the undersigned and delivered to the undersigned at the address set forth below.

17. Capitalized terms used but not otherwise defined in this Exercise Form shall have the meaning ascribed thereto in the Warrant.

Dated: _____

_____

Signature

_____

Print Name

_____

Address

NOTICE

The signature to the foregoing Exercise Form must correspond to the name as written upon the face of the attached Warrant in every particular, without alteration or enlargement or any change whatsoever.

EXHIBIT B

ASSIGNMENT

(To be executed by the registered holder
desiring to transfer the Warrant)

FOR VALUE RECEIVED, the undersigned holder of the attached warrant (the "Warrant") hereby sells, assigns and transfers unto the person or persons below named the right to purchase _____ shares of the Common Stock of Titan Pharmaceuticals, Inc., a Delaware corporation, evidenced by the attached Warrant and does hereby irrevocably constitute and appoint _____ attorney to transfer the said Warrant on the books of the Company, with full power of substitution in the premises.

Dated: _____

_____
Signature

Fill in for new registration of Warrant:

_____
Name

_____
Address

_____
Please print name and address of assignee (including zip code number)

NOTICE

The signature to the foregoing Assignment must correspond to the name as written upon the face of the attached Warrant in every particular, without alteration or enlargement or any change whatsoever.

EXHIBIT C

FORM OF OPINION

_____, 20__

[_____]

Re: Titan Pharmaceuticals, Inc. (the "Company")

Dear Sir:

[_____] ("[_____]") intends to transfer _____ Warrants (the "Warrants") of the Company to _____ ("_____") without registration under the Securities Act of 1933, as amended (the "Securities Act"). In connection therewith, we have examined and relied upon the truth of representations contained in an Investor Representation Letter attached hereto and have examined such other documents and issues of law as we have deemed relevant.

Based on and subject to the foregoing, we are of the opinion that the transfer of the Warrants by _____ to _____ may be effected without registration under the Securities Act, provided, however, that the Warrants to be transferred to _____ contain a legend restricting its transferability pursuant to the Securities Act and that transfer of the Warrants is subject to a stop order.

The foregoing opinion is furnished only to _____ and may not be used, circulated, quoted or otherwise referred to or relied upon by you for any purposes other than the purpose for which furnished or by any other person for any purpose, without our prior written consent.

Very truly yours,

[FORM OF INVESTOR REPRESENTATION LETTER]

_____, 20__

[_____]

Gentlemen:

_____ ("__") has agreed to purchase _____ Warrants (the "Warrants") of _____ (the "Company") from [_____] ("[_____]") exercisable for the purchase of ____ shares of the common stock, $0.0001 par value (the "Exercise Shares"). We understand that the Warrants are "restricted securities." We represent and warrant that ____ is a sophisticated institutional investor that would qualify as an "Accredited Investor" as defined in Rule 501 of Regulation D under the Securities Act of 1933, as amended (the "Securities Act").

_____ represents and warrants as of the date hereof as follows:

That it is acquiring the Warrants solely for its account for investment and not with a view to or for sale or distribution of said Warrants. _____ also represents that the entire legal and beneficial interests of the Warrants _____ is acquiring is being acquired for, and will be held for, its account only;

That the Warrants have not been registered under the Securities Act on the basis that no distribution or public offering of the Warrants is to be effected. _____ realizes that the basis for the exemption may not be present if, notwithstanding its representations, _____ has a present intention of acquiring the Warrants for a fixed or determinable period in the future, selling (in connection with a distribution or otherwise), granting any participation in, or otherwise distributing the Warrants. _____ has no such present intention;

That the Warrants must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such registration is available. _____ recognizes that the Company has no obligation to register the Warrants, or to comply with any exemption from such registration;

That neither the Warrants nor the Exercise Shares may be sold pursuant to Rule 144 adopted under the Securities Act unless certain conditions are met;

That it will not make any disposition of all or any part of the Warrants or Exercise Shares in any event unless and until:

The Company shall have received a letter secured by _____ from the Securities and Exchange Commission stating that no action will be recommended to the Securities and Exchange Commission with respect to the proposed disposition;

There is then in effect a registration statement under the Securities Act covering such proposed disposition and such disposition is made in accordance with said registration statement;

_____ shall have delivered to the Company reasonable assurances that the Warrants or the Exercise Shares, as applicable, may be sold pursuant to Rule 144 or Rule 144A under the Securities Act; or

_____ shall have notified the Company of the proposed disposition and, in the case of a sale or transfer in a so called "4(1) and a half" transaction, shall have furnished counsel to the Company with an opinion of counsel, reasonably satisfactory to counsel to the Company.

We acknowledge that the Company will place stop orders with respect to the Warrants, and if a registration statement is not effective, or if the applicable Exercise Shares are not then eligible to be sold pursuant to Rule 144 or Rule 144A under the Securities Act, the Exercise Shares shall bear the following restrictive legend:

> "THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE SOLD, TRANSFERRED OR ASSIGNED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER SAID ACT, OR PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER SAID ACT INCLUDING, WITHOUT LIMITATION, PURSUANT TO RULES 144 OR 144A UNDER SAID ACT OR PURSUANT TO A PRIVATE SALE EFFECTED UNDER APPLICABLE FORMAL OR INFORMAL SEC INTERPRETATION OR GUIDANCE, SUCH AS A SO-CALLED "4(1) AND A HALF" SALE."
>
> "THE SALE, TRANSFER OR ASSIGNMENT OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO THE TERMS AND CONDITIONS OF A CERTAIN REGISTRATION RIGHTS AGREEMENT DATED AS OF MARCH 15, 2011, AS AMENDED FROM TIME TO TIME, AMONG THE COMPANY AND CERTAIN HOLDERS OF ITS OUTSTANDING SECURITIES. COPIES OF SUCH AGREEMENT MAY BE OBTAINED AT NO COST BY WRITTEN REQUEST MADE BY THE HOLDER OF RECORD OF THIS CERTIFICATE TO THE SECRETARY OF THE COMPANY."

At any time and from time to time after the date hereof, _____ shall, without further consideration, execute and deliver to [_____] or the Company such other instruments or documents and shall take such other actions as they may reasonably request to carry out the transactions contemplated hereby.

Very truly yours,

Schedule 1

Black-Scholes Value

	Calculation Under Section 5(c)(ii)	Calculation Under Section 10(b) or 11(b)
Remaining Term	Number of calendar days from date of public announcement of the Major Transaction until the last date on which the Warrant may be exercised.	Number of calendar days from date of the Event of Failure until the last date on which the Warrant may be exercised.
Interest Rate	A risk-free interest rate corresponding to the US$ LIBOR/Swap rate for a period equal to the Remaining Term.	A risk-free interest rate corresponding to the US$ LIBOR/Swap rate for a period equal to the Remaining Term.
Volatility	If the first public announcement of the Major Transaction is made at or prior to 4:00 p.m., New York City time, the arithmetic mean of the historical volatility for the 10, 30 and 50 Trading Day periods ending on date of such first public announcement, obtained from the HVT or similar function on Bloomberg. If the first public announcement of the Major Transaction is made after 4:00 p.m., New York City time, the arithmetic mean of the historical volatility for the 10, 30 and 50 Trading Day periods ending on the date of such first public announcement, obtained from the HVT or similar function on Bloomberg.	If the first public announcement of the Major Transaction is made at or prior to 4:00 p.m., New York City time, the arithmetic mean of the historical volatility for the 10, 30 and 50 Trading Day periods ending on the date of such first public announcement, obtained from the HVT or similar function on Bloomberg. If the first public announcement of the Major Transaction is made after 4:00 p.m., New York City time, the arithmetic mean of the historical volatility for the 10, 30 and 50 Trading Day periods ending on the date of such first public announcement, obtained from the HVT or similar function on Bloomberg.
Stock Price	The greater of (1) the closing price of the Common Stock on the principal market on which the Common Stock is traded or listed (the "Closing Market Price") on the trading day immediately preceding the date on which a Major Transaction is consummated, (2) the first Closing Market Price following the first public announcement of a Major Transaction, or (3) the Closing Market Price on the Trading Day immediately preceding the first public announcement of the Major Transaction.	The volume Weighted Average Price on the date of such calculation.
Dividends	Zero.	Zero.

	Calculation Under Section 5(c)(ii)	Calculation Under Section 10(b) or 11(b)
Strike Price	Exercise Price as defined in section 3(a).	Exercise Price as defined in section 3(a).

Exhibit 4.2

REGISTRATION RIGHTS AGREEMENT

REGISTRATION RIGHTS AGREEMENT (this "Agreement"), dated as of March 15, 2011, by and among **TITAN PHARMACEUTICALS, INC.**, a Delaware corporation (the "Company"), and those lenders set forth on Schedule 1 to the Facility Agreement (as defined below) (each individually, a "Lender" and together, the "Lenders").

WHEREAS:

A. In connection with the Facility Agreement by and among the parties hereto of even date herewith (the "Facility Agreement"), the Company has agreed, upon the terms and subject to the conditions contained therein, to issue and sell to the Lenders Warrants (as defined below) in the amount described in the Facility Agreement, where each of the Warrants is exercisable into shares of the Company's common stock, $0.001 value per share (the "Common Stock"), each upon the terms and conditions and subject to the limitations and conditions set forth in the Warrants, all subject to the terms and conditions of the Facility Agreement; and

B. To induce the Lenders to execute and deliver the Facility Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the "Securities Act"), and applicable state securities laws,

NOW, THEREFORE, In consideration of the premises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and the Lenders hereby agree as follows:

1. DEFINITIONS.

a. As used in this Agreement, the following terms shall have the following meanings:

(i) "Additional Filing Deadline" means, with respect to any Registration Statements that may be required pursuant to Section 2(a)(ii), (a) the first date or time that such Registrable Securities may then be included in a Registration Statement if such Registration Statement is required because the SEC shall have notified the Company in writing that certain Registrable Securities were not eligible for inclusion on a previously filed Registration Statement, or (b) if such additional Registration Statement is required for a reason other than as described in (a) above, the tenth (10^{th}) day following the date on which the Company first knows, or reasonably should have known, that such additional Registration Statement is required.

(ii) "Additional Registration Deadline" means, with respect to any additional Registration Statement(s) that may be required to be filed pursuant to Section 2(a)(ii), the thirtieth (30^{th}) day following (a) the first date or time that such Registrable Securities may then be included in a Registration Statement if such Registration Statement is required because the SEC shall have notified the Company in writing that certain Registrable Securities were not eligible for inclusion on a previously filed Registration Statement, or (b) if such additional Registration Statement is required for a reason other than as described in (a) above, the fortieth (40^{th}) day following the date on which the Company first knows, or reasonably should have known, that such additional Registration Statement(s) is required.

(iii) "Buyer" means any Lender and any transferee or assignee who agrees to become bound by the provisions of this Agreement in accordance with Section 10 hereof.

(iv) "Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder, and any successor statute.

(v) "Filing Deadline," for each Registration Statement required to be filed hereunder other than Section 2(a)(ii), shall mean a date that is thirty (30) calendar days following the date the applicable Warrant is issued and, in the case of Section 2(a)(ii) shall mean the Additional Filing Deadline.

(vi) “Person” means and includes any natural person, partnership, joint venture, corporation, trust, limited liability company, limited company, joint stock company, unincorporated organization, government entity or any political subdivision or agency thereof, or any other entity.

(vii) “Registration Deadline” shall mean, other than for purposes of the Registration Statements required under Section 2(a)(ii), the earlier of (i) the date that is sixty (60) days after the date that the applicable Registration Statement is actually filed and (ii) the date that is sixty (60) days after the applicable Filing Deadline and, with respect to any Registration Statements required to be filed under Section 2(a)(ii), the Additional Registration Deadline; provided, however, in the event the Company receives comments made by the SEC in respect of any such Registration Statement, the Registration Deadline for such Registration Statement shall automatically be extended to the date that is 90 days after the date that the applicable Registration Statement is actually filed.

(viii) “Warrant(s)” means the warrants issued by the Company pursuant to the Facility Agreement.

(ix) “Register,” “Registered,” and “Registration” refer to a registration effected by preparing and filing a Registration Statement or Statements in compliance with the Securities Act and pursuant to Rule 415 under the Securities Act or any successor rule providing for offering securities on a continuous basis, and the declaration or ordering of effectiveness of such Registration Statement by the United States Securities and Exchange Commission (the “SEC”).

(x) “Registrable Securities,” for a given Registration, means (a) any shares of Common Stock (the “Warrant Shares”) issued or issuable upon exercise of or otherwise pursuant to the Warrants (without giving effect to any limitations on exercise set forth in the Warrants), (b) any shares of capital stock issued or issuable as a dividend on or in exchange for or otherwise with respect to any of the foregoing, (c) any additional shares of Common Stock issuable in connection with any anti-dilution provisions in the Warrants, (d) any other warrants or shares of Common Stock issuable pursuant to the terms of the Facility Agreement, the Warrants or this Registration Rights Agreement, and (d) any securities issued or issuable upon any stock split, dividend or other distribution, recapitalization or similar event with respect to the foregoing; provided, however, that any such Registrable Securities shall cease to be Registrable Securities upon the earliest to occur of the following: (A) sale pursuant to a Registration Statement or Rule 144 under the Securities Act (in which case, only such securities sold shall cease to be Registrable Securities); or (B) becoming eligible for sale without volume limitations by the Holder pursuant to Rule 144(b).

(xi) “Registration Statement(s)” means a registration statement(s) of the Company under the Securities Act required to be filed hereunder.

2. REGISTRATION.

a. MANDATORY REGISTRATION. (i) Following the date on which any Warrants are issued pursuant to the Facility Agreement (each, an “Issuance Date”), the Company shall prepare, and, on or prior to the applicable Filing Deadline (as defined above) file with the SEC a Registration Statement (the “Mandatory Registration Statement”) on Form S-3 (or, if Form S-3 is not then available, on such form of Registration Statement as is then available to effect a registration of the Registrable Securities, subject to the consent of the Buyers, which consent will not be unreasonably withheld) covering the resale of the Registrable Securities issued on the applicable Issuance Date (as defined below) which Registration Statement, to the extent allowable under the Securities Act and the rules and regulations promulgated thereunder (including Rule 416), shall state that such Registration Statement also covers such indeterminate number of additional shares of Common Stock as may become issuable upon exercise of or otherwise pursuant to the Warrants to prevent dilution resulting from stock splits, stock dividends, stock issuances or similar transactions. The number of shares of Common Stock initially included in such Registration Statement shall be no less than the aggregate number of Warrant Shares that are then issuable upon exercise of or otherwise pursuant to the Warrants issued on the Issuance Date, without regard to any limitation on the Buyers’ ability to exercise the Warrants, respectively. Each Registration Statement (and each amendment or supplement thereto, and each request for acceleration of effectiveness thereof) shall be provided to (and subject to the approval of) the Buyers and their counsel prior to its filing or other submission.

(ii) If for any reason the SEC does not permit all of the Registrable Securities to be included in the Registration

Statement filed pursuant to Section 2(a)(i) above, or for any other reason any Registrable Securities are not then included in a Registration Statement filed under this Agreement, then the Company shall prepare, and, as soon as practicable but in no event later than the Additional Filing Deadline, file with the SEC an additional Registration Statement covering the resale of all Registrable Securities not already covered by an existing and effective Registration Statement for an offering to be made on a continuous basis pursuant to Rule 415.

b. PIGGY-BACK REGISTRATIONS. If at any time prior to the expiration of the Registration Period (as hereinafter defined) the Company shall determine to file with the SEC a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its securities (other than debt securities or securities being registered on Form S-4 or Form S-8 or their then equivalents relating to equity securities to be issued solely in connection with any acquisition of any entity or business or equity securities issuable in connection with stock option or other employee benefit plans), the Company shall send to each Buyer written notice of such determination and, if within ten (10) days after the effective date of such notice, the Buyer shall so request in writing, the Company shall include in such Registration Statement all or any part of such Buyer's Registrable Securities the requests to be registered, except that if, in connection with any underwritten public offering for the account of the Company, the managing underwriter(s) thereof shall impose a limitation on the number of Registrable Securities which may be included in the Registration Statement because, in such underwriter(s)' judgment, marketing or other factors dictate such limitation is necessary to facilitate public distribution, then the Company shall be obligated to include in such Registration Statement only such limited portion of the Registrable Securities with respect to which the Buyer has requested inclusion hereunder as the underwriter shall permit;

PROVIDED, HOWEVER, that the Company shall not exclude any Registrable Securities unless the Company has first excluded all outstanding securities, the holders of which are not entitled by contract to inclusion of such securities in such Registration Statement or are not entitled to pro rata inclusion with the Registrable Securities; and

PROVIDED, FURTHER, HOWEVER, that, after giving effect to the immediately preceding proviso, any exclusion of Registrable Securities shall be made pro rata with holders of other securities having the contractual right to include such securities in the Registration Statement other than holders of securities entitled to inclusion of their securities in such Registration Statement by reason of demand registration rights. No right to registration of Registrable Securities under this Section 2(b) shall be construed to limit any registration required under Section 2(a) hereof. If an offering in connection with which a Buyer is entitled to registration under this Section 2(b) is an underwritten offering, then such Buyer shall, unless otherwise agreed by the Company, offer and sell such Registrable Securities in an underwritten offering using the same underwriter or underwriters and, subject to the provisions of this Agreement, on the same terms and conditions as other shares of Common Stock included in such underwritten offering. Notwithstanding anything to the contrary set forth herein, the registration rights of the Buyer pursuant to this Section 2(b) shall only be available in the event the Company fails to timely file, obtain effectiveness or maintain effectiveness of any Registration Statement to be filed pursuant to Section 2(a) in accordance with the terms of this Agreement.

3. OBLIGATIONS OF THE COMPANY. In connection with the registration of the Registrable Securities, the Company shall have the following obligations:

a. The Company shall prepare promptly, and file with the SEC as soon as practicable after each Issuance Date (but no later than the Filing Deadline), a Registration Statement with respect to the number of Registrable Securities provided in Section 2(a), and thereafter use its best efforts to cause each such Registration Statement relating to Registrable Securities to become effective as soon as possible after such filing, but in any event shall cause each such Registration Statement relating to Registrable Securities to become effective no later than the Registration Deadline, and shall keep the Registration Statement current and effective pursuant to Rule 415 at all times until such date as is the earlier of (i) the date on which all of the Registrable Securities for such Registration Statement have been sold and (ii) the date on which all of the Registrable Securities for such Registration Statement (in the opinion of counsel to the Buyers) may be immediately sold to the public without registration or restriction (including without limitation as to volume by each holder thereof) under the Securities Act (the "Registration Period"), which Registration Statement (including any amendments or supplements thereto and prospectuses contained therein), except for information provided by a Buyer or any transferee of a Buyer pursuant to Section 4(a), shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to

make the statements therein not misleading.

b. The Company shall prepare and file with the SEC such amendments (including post-effective amendments) and supplements to each Registration Statement and the prospectus used in connection with each Registration Statement as may be necessary to keep each Registration Statement current and effective at all times during the Registration Period, and, during such period, comply with the provisions of the Securities Act with respect to the disposition of all Registrable Securities of the Company covered by each Registration Statement until such time as all of such Registrable Securities have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof as set forth in each Registration Statement. In the event that on any Trading Day (as defined below) (the "Registration Trigger Date") the number of shares available under the Registration Statements filed pursuant to this Agreement is insufficient to cover all of the Registrable Securities issued or issuable upon exercise of or otherwise pursuant to the Warrants, including, without limitation, any additional shares of Common Stock issued in connection with any anti-dilution provisions contained in the Warrants, without giving effect to any limitations on the Buyers' ability to exercise the Warrants, the Company shall amend the Registration Statements, or file a new Registration Statement (on the short form available therefore, if applicable), or both, so as to cover the total number of Registrable Securities so issued or issuable (without giving effect to any limitations on exercise contained in the Warrants or limitations on conversion or exercise) as of the Registration Trigger Date as soon as practicable, but in any event within twenty (20) days after the Registration Trigger Date (based on the Exercise Price (as defined in the Warrants) of the Warrants, and other relevant factors on which the Company reasonably elects to rely). The Company shall use its best efforts to cause such amendment and/or new Registration Statement to become effective as soon as practicable following the filing thereof, but in any event the Company shall use its best efforts to cause such amendment and/or new Registration Statement to become effective within sixty (60) days of the Registration Trigger Date or as promptly as practicable in the event the Company is required to increase its authorized shares. "Trading Day" shall mean any day on which the Common Sock is traded for any period on the OTC Bulletin Board, or on the principal securities exchange or other securities market on which the Common Stock is then being traded.

c. The Company shall furnish to each Buyer and its legal counsel (i) promptly after the same is prepared and publicly distributed, filed with the SEC, or received by the Company, one copy of each Registration Statement and any amendment thereto, each preliminary prospectus and prospectus and each amendment or supplement thereto, and, in the case of a Registration Statement referred to in Section 2(a), each letter written by or on behalf of the Company to the SEC or the staff of the SEC, and each item of correspondence from the SEC or the staff of the SEC, in each case relating to such Registration Statement (other than any portion of any thereof which contains information for which the Company has sought confidential treatment), and (ii) such number of copies of a prospectus, including a preliminary prospectus, and all amendments and supplements thereto and such other documents as a Buyer may reasonably request in order to facilitate the disposition of the Registrable Securities owned by such Buyer. The Company will immediately notify the Buyers by facsimile of the effectiveness of each Registration Statement or any post-effective amendment. The Company will promptly respond to any and all comments received from the SEC, with a view towards causing each Registration Statement or any amendment thereto to be declared effective by the SEC as soon as practicable and shall file an acceleration request as soon as practicable, but no later than three (3) business days, following the resolution or clearance of all SEC comments or, if applicable, following notification by the SEC that any such Registration Statement or any amendment thereto will not be subject to review.

d. The Company shall use its best efforts to (i) register and qualify, in any jurisdiction where registration and/or qualification is required, the Registrable Securities covered by the Registration Statements under such other securities or "blue sky" laws of such jurisdictions in the United States as the Buyers shall reasonably request, (ii) prepare and file in those jurisdictions such amendments (including post-effective amendments) and supplements to such registrations and qualifications as may be necessary to maintain the effectiveness thereof during the Registration Period, (iii) take such other actions as may be necessary to maintain such registrations and qualifications in effect at all times during the Registration Period, and (iv) take all other actions reasonably necessary or advisable to qualify the Registrable Securities for sale in such jurisdictions; provided that such actions, shall not by themselves require the Company to register as a foreign corporation in any such jurisdictions.

e. As promptly as practicable after becoming aware of such event, the Company shall notify each Buyer of the happening of any event, of which the Company has knowledge, as a result of which the prospectus included in any Registration Statement, as then in effect, includes an untrue statement of a material fact or omits to state a material

fact required to be stated therein or necessary to make the statements therein not misleading, and use its best efforts promptly to prepare a supplement or amendment to any Registration Statement to correct such untrue statement or omission, and deliver such number of copies of such supplement or amendment to each Buyer as such Buyer may reasonably request.

f. The Company shall use its best efforts to prevent the issuance of any stop order or other suspension of effectiveness of any Registration Statement, and, if such an order is issued, to obtain the withdrawal of such order at the earliest possible moment and to notify each Buyer who holds Registrable Securities being sold (or, in the event of an underwritten offering, the managing underwriters) of the issuance of such order and the resolution thereof.

g. The Company shall permit a single firm of counsel designated by the Buyers (the "Buyer's Counsel") to review such Registration Statement and all amendments and supplements thereto (as well as all requests for acceleration or effectiveness thereof), at Buyers' own cost, a reasonable period of time prior to their filing with the SEC (not less than five (5) business days but not more than eight (8) business days) and not file any documents in a form to which Buyer's Counsel reasonably objects and will not request acceleration of such Registration Statement without prior notice to such counsel; provided, however, so long as the Company has complied with this Section 3(g), any failure to file any acceleration request or meet any Filing Deadline, Additional Filing Deadline, Registration Deadline or Additional Registration Deadline due to a delay on the part of Buyer's Counsel shall not be deemed a failure by the Company to meet the applicable deadline for any purpose under this agreement or any other agreement.

h. The Company shall hold in confidence and not make any disclosure of information concerning a Buyer provided to the Company unless (i) disclosure of such information is necessary to comply with federal or state securities laws, (ii) the disclosure of such information is necessary to avoid or correct a misstatement or omission in any Registration Statement, (iii) the release of such information is ordered pursuant to a subpoena or other order from a court or governmental body of competent jurisdiction, or (iv) such information has been made generally available to the public other than by disclosure in violation of this or any other agreement. The Company agrees that it shall, upon learning that disclosure of such information concerning such Buyer is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt notice to the Buyer prior to making such disclosure, and allow such Buyer, at its expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, such information.

i. The Company shall use its best efforts to cause all the Registrable Securities covered by each Registration Statement to be listed on each securities exchange on which securities of the same class or series issued by the Company are then listed, if any, if the listing of such Registrable Securities is then permitted under the rules of such exchange.

j. The Company shall provide a transfer agent and registrar, which may be a single entity, for the Registrable Securities not later than the effective date of the initial Registration Statement.

k. The Company shall cooperate with each Buyer who holds Registrable Securities being offered and the managing underwriter or underwriters with respect to an applicable Registration Statement, if any, to facilitate the timely preparation and delivery of certificates (not bearing any restrictive legends) representing Registrable Securities to be offered pursuant to such Registration Statement and enable such certificates to be in such denominations or amounts, as the case may be, as the managing underwriter or underwriters, if any, or the Buyer may reasonably request and registered in such names as the managing underwriter or underwriters, if any, or the Buyer may request, and, within three (3) business days after a Registration Statement which includes Registrable Securities is ordered effective by the SEC, the Company shall deliver, and shall cause legal counsel selected by the Company to deliver, to the transfer agent for the Registrable Securities (with copies to each Buyer) an appropriate instruction and an opinion of such counsel in the form required by the transfer agent in order to issue the Registrable Securities free of restrictive legends.

l. At the request of a Buyer, the Company shall prepare and file with the SEC such amendments (including post-effective amendments) and supplements to a Registration Statement and any prospectus used in connection with the Registration Statement as may be necessary in order to change the plan of distribution set forth in such Registration Statement.

m. The Company shall not, and shall not agree to, allow the holders of any securities of the Company to include any of their securities in any Registration Statement under Section 2(a) hereof or any amendment or supplement thereto under Section 3(b) hereof without the consent of the Buyers. In addition, the Company shall not offer any securities for its own account or the account of others in any Registration Statement under Section 2(a) hereof or any amendment or supplement thereto under Section 3(b) hereof without the consent of the Buyers.

n. The Company shall take all other reasonable actions necessary to expedite and facilitate disposition by the Buyers of Registrable Securities pursuant to a Registration Statement.

o. The Company shall comply with all applicable laws related to a Registration Statement and offering and sale of securities and all applicable rules and regulations of governmental authorities in connection therewith (including, without limitation, the Securities Act and the Exchange Act and the rules and regulations promulgated by the SEC).

p. If required by the Financial Industry Regulatory Authority, Inc. Corporate Financing Department, the Company shall promptly effect a filing with FINRA pursuant to FINRA Rule 5110 with respect to the public offering contemplated by resales of securities under the Registration Statement (an "Issuer Filing"), and pay the filing fee required by such Issuer Filing. The Company shall use commercially reasonable efforts to pursue the Issuer Filing until FINRA issues a letter confirming that it does not object to the terms of the offering contemplated by the Registration Statement.

4. OBLIGATIONS OF THE BUYER. In connection with the registration of the Registrable Securities, each Buyer shall have the following obligations:

a. It shall be a condition precedent to the obligations of the Company to complete the registration pursuant to this Agreement with respect to the Registrable Securities of a Buyer that such Buyer shall furnish to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it as shall be reasonably required to effect the registration of such Registrable Securities and shall execute such documents in connection with such registration as the Company may reasonably request. At least five (5) business days prior to the first anticipated filing date of a Registration Statement, the Company shall notify each Buyer of the information the Company requires from such Buyer. Any such information shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to make the statements therein not misleading.

b. Each Buyer, by such Buyer's acceptance of the Registrable Securities, agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of a Registration Statement hereunder, unless such Buyer has notified the Company in writing of the Buyer's election to exclude all of the Buyer's Registrable Securities from such Registration Statement.

c. In the event of an underwritten offering pursuant to Section 2(b) in which any Registrable Securities are to be included, the Buyer agrees to enter into and perform the Buyer's obligations under an underwriting agreement, in usual and customary form, including, without limitation, customary indemnification and contribution obligations, with the managing underwriter of such offering and take such other actions as are reasonably required in order to expedite or facilitate the disposition of the Registrable Securities, unless the Buyer has notified the Company in writing of the Buyer's election to exclude all of the Buyer's Registrable Securities from such Registration Statement.

d. Each Buyer agrees that, upon receipt of any notice from the Company of the happening of any event of the kind described in Section 3(e) or 3(f), the Buyer will immediately discontinue disposition of Registrable Securities pursuant to the Registration Statement covering such Registrable Securities until the Buyer's receipt of the copies of the supplemented or amended prospectus contemplated by Section 3(e) or 3(f) and, if so directed by the Company, the Buyer shall deliver to the Company (at the expense of the Company) or destroy (and deliver to the Company a certificate of destruction) all copies in the Buyer's possession, of the prospectus covering such Registrable Securities current at the time of receipt of such notice.

5. REGISTRATION FAILURE. In the event of a Registration Failure (as defined in the Warrants), the Buyers shall be entitled to Failure Payments (as defined in the Warrants) and such other rights as set forth in the Warrants, subject to all limitations set forth in the Warrants.

6. EXPENSES OF REGISTRATION. All reasonable expenses, other than underwriting discounts and commissions, incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualification fees, printers and accounting fees, and the fees and disbursements of counsel for the Company shall be borne by the Company.

7. INDEMNIFICATION. In the event any Registrable Securities are included in a Registration Statement under this Agreement:

a. The Company will indemnify, hold harmless and defend (i) each Buyer, (ii) the directors, officers, partners, managers, members, employees, agents and each Person who controls any Buyer within the meaning of the Securities Act or the Exchange Act, if any, (iii) any underwriter (as defined in the Securities Act) for each Buyer in connection with an underwritten offering pursuant to Section 2(b) hereof, and (iv) the directors, officers, partners, employees and each Person who controls any such underwriter within the meaning of the Securities Act or the Exchange Act, if any (each, an "Indemnified Person"), against any joint or several losses, claims, damages, liabilities or expenses (collectively, together with actions, proceedings or inquiries by any regulatory or self-regulatory organization, whether commenced or threatened, in respect thereof, "Claims") to which any of them may become subject insofar as such Claims arise out of or are based upon: (i) any untrue statement or alleged untrue statement of a material fact in a Registration Statement or the omission or alleged omission to state therein a material fact required to be stated or necessary to make the statements therein not misleading; (ii) any untrue statement or alleged untrue statement of a material fact contained in any preliminary prospectus if used prior to the effective date of such Registration Statement, or contained in the final prospectus (as amended or supplemented, if the Company files any amendment thereof or supplement thereto with the SEC) or the omission or alleged omission to state therein any material fact necessary to make the statements made therein, in light of the circumstances under which the statements therein were made, not misleading; or (iii) any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any other law, including, without limitation, any state securities law, or any rule or regulation thereunder relating to the offer or sale of the Registrable Securities (the matters in the foregoing clauses (i) through (iii) being, collectively, "Violations"). The Company shall reimburse the Indemnified Person, promptly as such expenses are incurred and are due and payable, for any reasonable legal fees or other reasonable expenses incurred by them in connection with investigating or defending any such Claim. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 7(a) shall not apply to a Claim arising out of or based upon a Violation to the extent that such Violation occurs in reliance upon and in conformity with information furnished in writing to the Company by any Indemnified Person for use in connection with the preparation of such Registration Statement or any such amendment thereof or supplement thereto. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Person and shall survive the transfer of the Registrable Securities by the Buyer pursuant to Section 10.

b. Promptly after receipt by an Indemnified Person under this Section 7 of notice of the commencement of any action (including any governmental action), such Indemnified Person shall, if a Claim in respect thereof is to be made against the Company under this Section 7, deliver to the Company a written notice of the commencement thereof, and the Company shall have the right to participate in, and, to the extent the Company so desires, to assume control of the defense thereof with counsel mutually satisfactory to the Company and the Indemnified Person, as the case may be.

PROVIDED, HOWEVER, that an Indemnified Person shall have the right to retain its own counsel with the reasonable fees and expenses to be paid by the Company, if, in the reasonable opinion of counsel for the Buyer, the representation by such counsel of the Indemnified Person and the Company would be inappropriate due to actual or potential differing interests between such Indemnified Person and any other party represented by such counsel in such proceeding. The Company shall pay for only one separate legal counsel for the Indemnified Persons, and such legal counsel shall be selected by Buyers. The failure to deliver written notice to the Company within a reasonable time of the commencement of any such action shall not relieve the Company of any liability to the Indemnified Person under this Section 7, except to the extent that the Company is actually prejudiced in its ability to defend such action. The indemnification required by this Section 7 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as such expense, loss, damage or liability is incurred and is due and payable.

c. Each Buyer will indemnify, hold harmless and defend (i) the Company, and (ii) the directors, officers, partners, managers, members, employees, or agents of the Company, if any (each, a "Company Indemnified Person"), against any joint or several losses, claims, damages, liabilities or expenses (collectively, together with actions, proceedings or inquiries by any regulatory or self-regulatory organization, whether commenced or threatened, in respect thereof, "Indemnity Claims") to which any of them may become subject insofar as such Claims arise out of or are based upon any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any other law, including, without limitation, any state securities law, or any rule or regulation thereunder relating to the offer or sale of the Registrable Securities, which occurs due to the inclusion by the Company in a Registration Statement of false or misleading information about a Buyer, where such information was furnished in writing to the Company by such Buyer for the purpose of inclusion in such Registration Statement. Notwithstanding anything herein to the contrary, the indemnity agreement contained in this Section 7(c) shall not apply to amounts paid in settlement of any Indemnity Claim if such settlement is effected without the prior written consent of the Buyers which consent shall not be unreasonably withheld or delayed; and provided, further, however, that a Buyer shall be liable under this Section 7(c) for only that amount of an Indemnity Claim as does not exceed the net amount of proceeds received by such Buyer as a result of the sale of Registrable Securities pursuant to such Registration Statement.

d. Promptly after receipt by a Company Indemnified Person under this Section 7 of notice of the commencement of any action (including any governmental action), such Company Indemnified Person shall, if an Indemnity Claim in respect thereof is to be made against a Buyer under this Section 7, deliver to such Buyer a written notice of the commencement thereof, and such Buyer shall have the right to participate in, and, to the extent such Buyer so desires, to assume control of the defense thereof with counsel mutually satisfactory to such Buyer and the Company Indemnified Person, as the case may be.

8. CONTRIBUTION. To the extent any indemnification by the Company is prohibited or limited by law, the Company agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under Section 7 to the fullest extent permitted by law, based upon a comparative fault standard.

9. REPORTS UNDER THE 1934 ACT. With a view to making available to the Buyers the benefits of Rule 144 promulgated under the Securities Act or any other similar rule or regulation of the SEC that may at any time permit the Buyers to sell securities of the Company to the public without registration the Company agrees to:

a. make and keep public information available, as those terms are understood and defined in Rule 144;

b. file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act so long as the Company remains subject to such requirements and the filing of such reports and other documents is required for the applicable provisions of Rule 144; and

c. so long as the Buyers own Registrable Securities, promptly upon request, furnish to the Buyers (i) a written statement by the Company that it has complied with the reporting requirements of the Securities Act and the Exchange Act as required for applicable provisions of Rule 144, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company and (iii) such other information as may be reasonably requested to permit the Buyers to sell such securities pursuant to Rule 144 without registration.

10. ASSIGNMENT OF REGISTRATION RIGHTS. The rights under this Agreement shall be automatically assignable by each Buyer to any transferee of all or any portion of the Registrable Securities if: (i) the Buyer agrees in writing with the transferee or assignee to assign such rights, and a copy of such agreement is furnished to the Company within a reasonable time after such assignment, (ii) the Company is, within a reasonable time after such transfer or assignment, furnished with written notice of (a) the name and address of such transferee or assignee, and (b) the securities with respect to which such registration rights are being transferred or assigned, and (iii) at or before the time the Company receives the written notice contemplated by clause (ii) of this sentence, the transferee or assignee agrees in writing with the Company to be bound by all of the provisions contained herein. In the event that a Buyer transfers all or any portion of its Registrable Securities pursuant to this Section, the Company shall have at least ten (10) days to file any amendments or supplements necessary to keep a Registration Statement current and

effective pursuant to Rule 415, and the commencement date of any Event of Failure (as defined in the Warrants) or Event of Default (as defined in the Warrants) under the Warrants caused thereby will be extended by ten (10) days.

11. AMENDMENT OF REGISTRATION RIGHTS. Provisions of this Agreement may be amended and the observance thereof may be waived (either generally or in a particular instance and either retroactively or prospectively), only with written consent of the Company and the holders of a majority in interest of then-outstanding Registrable Securities. Any amendment or waiver effected in accordance with this Section 11 shall be binding upon each of the Buyers and the Company.

12. MISCELLANEOUS.

a. A Person is deemed to be a holder of Registrable Securities whenever such Person owns of record or beneficially through a "street name" holder such Registrable Securities. If the Company receives conflicting instructions, notices or elections from two or more Persons with respect to the same Registrable Securities, the Company shall act upon the basis of instructions, notice or election received from the registered owner of such Registrable Securities.

b. Any notices required or permitted to be given under the terms hereof shall be sent by certified or registered mail (return receipt requested) or delivered personally or by courier (including a recognized overnight delivery service) or by facsimile and shall be effective five days after being placed in the mail, if mailed by regular United States mail, or upon receipt, if delivered personally or by courier (including a recognized overnight delivery service) or by facsimile, in each case addressed to a party. The addresses for such communications shall be:

If to the Company:

Titan Pharmaceuticals, Inc.
400 Oyster Point Blvd., Suite 505
South San Francisco, CA 94080
Fax:
Attn:

With copy to:

Loeb & Loeb LLP
345 Park Avenue
New York, 10154
Fax: (212) 214-0706
Attn: Fran Stoller, Esq.

If to a Buyer:

c/o Deerfield Capital, L.P.
780 Third Avenue, 37th Floor
New York, New York 10017
Fax: (212) 599-1248
Attn: James E. Flynn

With a copy to:

Katten Muchin Rosenman LLP
575 Madison Avenue
New York, New York 10022
Fax: (212) 940-8776
Attn: Mark I. Fisher, Esq.
Elliot Press, Esq.

Each party shall provide notice to the other party of any change in address.

c. Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

d. Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. The parties hereby waive all rights to a trial by jury. If either party shall commence an action or proceeding to enforce any provision of this Agreement, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

e. This Agreement, the Warrants and the Facility Agreement (including all schedules and exhibits thereto) constitute the entire agreement among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement, the Warrants and the Facility Agreement supersede all prior agreements and understandings among the parties hereto with respect to the subject matter hereof and thereof.

f. Subject to the requirements of Section 10 hereof, this Agreement shall inure to the benefit of and be binding upon the successors and assigns of each of the parties hereto.

g. The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

h. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which shall constitute one and the same agreement. This Agreement, once executed by a party, may be delivered to the other party hereto by facsimile transmission of a copy of this Agreement bearing the signature of the party so delivering this Agreement.

i. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

j. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Buyers by vitiating the intent and purpose of the transactions contemplated hereby. Accordingly, the Company acknowledges that the remedy at law for breach of its obligations hereunder will be inadequate and agrees, in the event of a breach or threatened breach by the Company of any of the provisions hereunder, that the Buyers shall be entitled, in addition to all other available remedies in law or in equity, to an injunction or injunctions to prevent or cure breaches of the provisions of this Agreement and to enforce specifically the terms and provisions hereof, without the necessity of showing economic loss and without any bond or other security being required.

k. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

l. In the event that any provision of this Agreement is invalid or unenforceable under any applicable statute or rule of law, then such provision shall be deemed inoperative to the extent that it may conflict therewith and shall be deemed modified to conform with such statute or rule of law. Any provision hereof which may prove invalid or unenforceable under any law shall not affect the validity or enforceability of any other provision hereof.

m. In the event a Buyer shall sell or otherwise transfer any of such holder's Registrable Securities, each transferee shall be allocated a pro rata portion of the number of Registrable Securities included in a Registration Statement for such transferor.

n. There shall be no oral modifications or amendments to this Agreement. This Agreement may be modified or amended only in writing.

[Remainder of page left intentionally blank]

[Signature page follows]

IN WITNESS WHEREOF, the undersigned Buyers and the Company have caused this Registration Rights Agreement to be duly executed as of the date first written above.

COMPANY:

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle
Name: Sunil Bhonsle
Title: President

BUYERS:

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD PRIVATE DESIGN INTERNATIONAL II, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND INTERNATIONAL LIMITED

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

Exhibit 10.1

FACILITY AGREEMENT

FACILITY AGREEMENT (this "Agreement"), dated as of March 15, 2011, between Titan Pharmaceuticals, Inc., a Delaware corporation (the "Borrower"), Deerfield Private Design Fund II, L.P., a Delaware limited partnership, Deerfield Private Design International II, L.P., a limited partnership organized under the laws of the British Virgin Islands, Deerfield Special Situations Fund, L.P., a Delaware limited partnership and Deerfield Special Situations Fund International Limited, a company organized under the laws of the British Virgin Islands (individually, a "Lender" and together, the "Lenders" and, together with the Borrower, the "Parties").

W I T N E S S E T H

WHEREAS, the Borrower wishes to borrow from the Lenders funds for general corporate purposes; and

WHEREAS, the Lenders desire to make a loan to the Borrower for such purpose (the "Loan"),

NOW, THEREFORE, in consideration of the mutual agreements set forth herein, the Parties agree as follows:

ARTICLE I

DEFINITIONS

Section 1.1 General Definitions. Wherever used in this Agreement, the Exhibits or the Schedules attached hereto, unless the context otherwise requires, the following terms have the following meanings:

"Additional Amounts" has the meaning given to it in Section 2.4(b).

"Affiliate" means, with respect to any Person, (a) any other Person directly or indirectly controlling, controlled by, or under common control with that Person; (b) any other Person owning beneficially or controlling ten percent (10%) or more of the equity interest in such Person; (c) any officer, director, partner, member, or shareholder of such Person; or (d) any spouse, parent, sibling (natural born or adopted) or child (natural born or adopted) of such Person. As used in this definition of "Affiliate," the term "control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through ownership of voting securities or partnership or other ownership interest, by contract, or otherwise.

"Aggregate Deferred Payments" has the meaning given to it in Section 2.2(b).

"Business Day" means a day on which banks are open for business in The City of New York and Los Angeles.

"Common Stock" means the common stock, par value $0.001 per share, of the Borrower.

"Default" means any event which, at the giving of notice, lapse of time or fulfillment of any other applicable condition (or any combination of the foregoing), would constitute an Event of Default.

"Dollars" and the "$" sign mean the lawful currency of the United States of America.

"Event of Default" has the meaning given to it in Section 4.5.

"Excluded Taxes" means, with respect to any Lender (a) income or franchise taxes imposed on (or measured by) such Person's net income, or any taxes (other than Other Taxes) imposed on its net capital or net worth, by any jurisdiction under the laws of which such recipient is organized or in which its principal office is located or in which it is doing business (other than solely by reason of the execution, delivery or enforcement of, or the transactions otherwise contemplated by, this Agreement or any other Financing Document), (b) any branch profits taxes or any similar tax imposed by any jurisdiction described in clause (a) of this sentence, and (c) any taxes imposed pursuant to FATCA because such Lender failed to comply with the applicable requirements under Section 1471(b) or Section 1472(b) of the IRC (including any agreements or requests entered into or issued pursuant to Section 1471(b) or 1472(b) of the IRC) or elects to be withheld upon pursuant to Section 1471(b)(3) of the IRC.

"FATCA" means Sections 1471 through 1474 of the IRC, as in effect on the date hereof, and any applicable Treasury regulations promulgated thereunder or published administrative guidance implementing such Sections.

"Final Payment" means such amount as may be necessary to repay the outstanding principal amount and accrued and unpaid interest of the Notes in full and any other amounts owing by the Borrower to the Lenders pursuant to the Financing Documents; provided however, that if the Final Payment is made pursuant to Section 4.4, such principal amount shall be calculated at 110% thereof.

"Final Payment Date" means the earlier of (i) the date on which the Borrower makes the Final Payment and (ii) the Maturity Date.

"Financing Documents" means this Agreement, the Notes, the Warrants, the Security Agreement, the Registration Rights Agreement dated as of the date hereof, by and among the Borrower and the Lenders and any other document or instrument delivered in connection with any of the foregoing whether or not specifically mentioned herein or therein.

"Foreign Person" has the meaning given to such term in Section 2.4.

"GAAP" means generally accepted accounting principles, practices and procedures in effect from time to time in the United States of America.

"Government Authority" means any government, governmental department, ministry, cabinet, commission, board, bureau, agency, tribunal, regulatory authority, instrumentality, judicial, legislative, fiscal, or administrative body or entity, domestic or foreign, federal, state or

local having jurisdiction over the matter or matters and Person or Persons in question, including, without limitation, the SEC.

"Indebtedness" means the following, whether direct or contingent, of the Borrower:

1. all indebtedness for borrowed money;

2. the deferred purchase price of assets or services which in accordance with GAAP would be shown to be a liability (or on the liability side of a balance sheet);

3. all guaranty obligations;

4. the maximum amount of all letters of credit issued or acceptance facilities established for the account of the Borrower and, without duplication, all drafts drawn thereunder (other than letters of credit supporting other indebtedness of Borrower and which are otherwise permitted hereunder);

5. all capitalized lease obligations;

6. all indebtedness of another Person secured by any Lien on any property of the Borrower, whether or not such indebtedness has been assumed or is recourse;

7. all obligations under take-or-pay or similar arrangements or under any interest rate swaps, caps, floors, collars and other interest hedge or protection agreements, treasury locks, equity forward contracts, currency agreements or commodity purchase or option agreements or other interest or exchange rate or commodity price hedging agreements and any other derivative instruments, in each case, whether the Borrower is liable contingently or otherwise, as obligor, guarantor or otherwise, or in respect of which obligations the Borrower otherwise assures a creditor against loss;

8. indebtedness created or arising under any conditional sale or title retention agreement; and

9. obligations of the Borrower with respect to withdrawal liability to or on behalf of any "multi employer plan" as defined in Section 4001(a) of ERISA.

"Indemnified Person" has the meaning given to it in Section 5.11.

"Indemnified Taxes" means Taxes (other than Excluded Taxes) and Other Taxes.

"Indemnity" has the meaning given to it in Section 5.11.

"Interest Rate" means 8.5% per annum.

"IRC" means the Internal Revenue Code of 1986, as amended, and all regulations promulgated thereunder.

"Liabilities" means all claims, actions, suits, judgments, damages, losses, liability, obligations, responsibilities, fines, penalties, sanctions, costs, fees, taxes, commissions, charges,

disbursements and expenses, in each case of any kind or nature (including interest accrued thereon or as a result thereto and reasonable fees, charges and disbursements of financial, legal and other advisors and consultants), whether joint or several, whether or not indirect, contingent, consequential, actual, punitive, treble or otherwise.

"Lien" means any lien, pledge, preferential arrangement, mortgage, security interest, deed of trust, charge, assignment, hypothecation, title retention, privilege or other encumbrance on or with respect to property or interest in property having the practical effect of constituting a security interest, in each case with respect to the payment of any obligation with, or from the proceeds of, any asset or revenue of any kind.

"Loss" has the meaning given to it in Section 5.11.

"Major Transaction" has the meaning given to it in the Warrants.

"Material Adverse Effect" means a material adverse effect on (a) the business, operations, condition (financial or otherwise) or property of the Borrower, (b) the validity or enforceability of any provision of any Financing Document, (c) the ability of the Borrower to timely perform the Obligations or (d) the rights and remedies of the Lenders under any Financing Document.

"Maturity Date" means the fifth anniversary of the issue date of the Notes.

"Notes" means the notes issued to the Lenders evidencing the Loan in the forms attached hereto as Exhibits A-1, A-2, A-3 and A-4.

"Novartis Event" means the termination by Novartis Pharma A.G. ("Novartis") of the entire Territory pursuant to Section 10.1 of the Sublicense Agreement effective as of November 20, 1997 between the Borrower and Novartis.

"Obligations" means all obligations (monetary or otherwise) of the Borrower arising under or in connection with the Financing Documents.

"Organizational Documents" means the Certificate of Incorporation and By-laws of the Borrower.

"Other Taxes" means any and all present or future stamp or documentary taxes or any other excise or property taxes, charges or similar levies, together with any interest, fees, additions to tax or penalties applicable thereto (including by reason of any delay in payment) arising from any payment made hereunder or from the execution, delivery, registration or enforcement of, or otherwise with respect to, this Agreement or any other Financing Document.

"Permitted Distributions" means (a) purchases of capital stock from former employees, consultants and directors pursuant to repurchase agreements or other similar agreements in an aggregate amount not to exceed $100,000 in any fiscal year, provided that at the time of such purchase no Event of Default has occurred and is continuing; (b) purchases for value of any rights distributed in connection with any stockholder rights plan; (c) purchases of capital stock or options to acquire such capital stock with the proceeds received from a substantially concurrent

issuance of capital stock or convertible securities; (d) purchases of capital stock pledged as collateral for loans to employees; and (e) purchases of capital stock in connection with the exercise of stock options or stock appreciation rights by way of cashless exercise or in connection with the satisfaction of withholding tax obligations

"Permitted Indebtedness" means: (a) indebtedness of Borrower in favor of the Lenders arising under this Agreement and the other Financing Documents; (b) indebtedness existing as of the date hereof and disclosed on Exhibit B hereof; (c) Subordinated Debt, provided that the aggregate outstanding principal amount of all such Subordinated Debt shall not exceed $10,000,000 at any time; (d) unsecured Indebtedness to trade creditors incurred in the ordinary course of business; (e) capitalized leases and Purchase Money Indebtedness not to exceed $100,000 in the aggregate in any fiscal year; (f) Indebtedness for deferred compensation to employees of the Borrower; and (g) refinanced Permitted Indebtedness, provided that (i) such refinanced Indebtedness has an aggregate outstanding principal amount not greater than the aggregate principal amount of such Permitted Indebtedness outstanding at the time of such refinancing, (ii) such refinanced Indebtedness has a maturity of no shorter than that of such Permitted Indebtedness, (iii) such refinanced Indebtedness does not accelerate the amortization of such Permitted Indebtedness.

"Permitted Liens" means (a) Liens existing on the date hereof in favor of Oxford Finance Corporation which shall be released simultaneously with the funding of the Loan hereunder; (b) Liens in favor of the Lenders; (c) Liens for taxes, fees, assessments or other government charges or levies, either not delinquent or being contested in good faith by appropriate proceedings diligently prosecuted that stay the enforcement of any Lien and for which Borrower maintains adequate reserves on its books in accordance with GAAP; (d) Purchase Money Liens; (e) Liens incurred in the extension, renewal or refinancing of the indebtedness secured by Liens described in (a) through (d), but any extension, renewal or replacement Lien must be limited to the property encumbered by the existing Lien and the principal amount of the indebtedness it secures may not increase; (f) leases or subleases of real property granted in the ordinary course of the Borrower's business, and leases, subleases, non-exclusive licenses or sublicenses of personal property (other than intellectual property) granted in the ordinary course of the Borrower's business; (g) (i) non-exclusive licenses of intellectual property granted to third parties in the ordinary course of business, and (ii) licenses of intellectual property that could not result in a legal transfer of title of the licensed property that may be exclusive other than as to territory and that may be exclusive as to territory only as to discreet geographical areas outside of the United States; (h) leases or subleases granted in the ordinary course of Borrower's business, including in connection with Borrower's leased premises or leased property; (i) Liens in favor of financial institutions arising in connection with Borrower's deposit or securities accounts held at such institutions; (j) Liens of carriers, warehousemen, artisans, bailees, mechanics and materialmen incurred in the ordinary course of business securing sums not overdue; (k) Liens incurred in the ordinary course of business in connection with workmen's compensation, unemployment insurance or other forms of governmental insurance or benefits relating to employees securing sums (i) not overdue or (ii) being contested in good faith provided that adequate reserves with respect thereto are maintained on the books of the Borrower in conformity with GAAP; and (l) Liens other than those described above which do not at any time exceed $25,000 in the aggregate.

"Person" means and includes any natural person, individual, partnership, joint venture, corporation, trust, limited liability company, limited company, joint stock company, unincorporated organization, government entity or any political subdivision or agency thereof, or any other entity.

"Prepayment Date" has the meaning given to it in Section 2.2(b).

"Prepayment Revenue" means the net cash consideration received by the Borrower from the sale, licensing and/or marketing of Probuphine.

"Purchase Money Indebtedness" means (a) any indebtedness incurred for the payment of all or any part of the purchase price of any fixed asset, (b) any indebtedness incurred for the sole purpose of financing or refinancing all or any part of the purchase price of any fixed asset, and (c) any renewals, extensions or refinancings thereof (subject to the limitations set forth in clause (g) of the definition of Permitted Indebtedness).

"Purchase Money Lien" means any Lien upon any fixed assets that secures the Purchase Money Indebtedness related thereto but only if such Lien shall at all times be confined solely to the asset the purchase price of which was financed or refinanced through the incurrence of the Purchase Money Indebtedness secured by such Lien and only if such Lien secures only such Purchase Money Indebtedness.

"Put Notice" has the meaning given to it in Section 4.4.

"SEC" means the United States Securities and Exchange Commission.

"Securities Act" means the Securities Act of 1933, including the rules and regulations promulgated thereunder.

"Security Agreement" means the Security Agreement, dated as of the date of this Agreement, between the Borrower and the Lenders.

"Securities Exchange Act" means the Securities Exchange Act of 1934, including the rules and regulations promulgated thereunder.

"Subordinated Debt" means (a) Indebtedness incurred by Borrower subordinated to Borrower's Indebtedness owed to Lenders and which is reflected in a written agreement in a manner and form acceptable to Lenders in their sole and absolute discretion and (b) to the extent the terms of subordination do not change adversely to Lenders, refinancings, refundings, renewals, amendments or extensions of any of the foregoing.

"Subsidiary or Subsidiaries" means any entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other Persons performing similar functions are at the time directly or indirectly owned by the Borrower.

"Taxes" means all deductions or withholdings for any and all present and future taxes, levies, imposts, stamp or other duties, fees, assessments, deductions, withholdings, all other

governmental charges, and all liabilities with respect thereto, including without limitation interest, additions to tax and penalties.

"Trading Days" has the meaning set forth in the Warrants.

"Warrants" means the Warrants issued pursuant to Section 2.7.

Section 1.2 Interpretation. In this Agreement, unless the context otherwise requires, all words and personal pronouns relating thereto shall be read and construed as the number and gender of the party or parties requires and the verb shall be read and construed as agreeing with the required word and pronoun; the division of this Agreement into Articles and Sections and the use of headings and captions is for convenience of reference only and shall not modify or affect the interpretation or construction of this Agreement or any of its provisions; the words "herein," "hereof," "hereunder," "hereinafter" and "hereto" and words of similar import refer to this Agreement as a whole and not to any particular Article or Section hereof; the words "include," "including," and derivations thereof shall be deemed to have the phrase "without limitation" attached thereto unless otherwise expressly stated; references to a specified Article, Exhibit or Section shall be construed as a reference to that specified Article, Exhibit or Section of this Agreement; and any reference to any of the Financing Documents means such agreement or document as the same shall be amended, supplemented or modified and from time to time in effect.

ARTICLE II

AGREEMENT FOR THE LOAN

Section 2.1 Disbursements. Within 15 Business Days after the date hereof, the Lenders shall disburse Seventeen Million Dollars ($17,000,000) to a deposit account in the name of the Borrower.

Section 2.2 Repayment. (a) Subject to the provisions of Section 2.2(b), the Borrower shall prepay the Notes on the first, second, third and fourth anniversaries of their issue date in an amount equal to 10%, 15%, 25% and 25%, respectively, of their initial principal amount.

(b) Upon the occurrence of a Novartis Event and thereafter to and including September 30, 2012, the Borrower may, in lieu of making payments of principal and interest on the Notes required thereunder, elect by 10 days' notice to the Lenders to increase the principal amounts of the Notes, pro rata, by an amount equal to such payments (the "Aggregate Deferred Payments"). If the Borrower makes any such election, on the 10th Business Day of each month thereafter until the 10th Business Day of October, 2012 (a "Prepayment Date"), the Borrower shall prepay the Notes pursuant to the procedures set forth in the Security Agreement in an amount equal to 75% of the Prepayment Revenue actually received by Borrower during the immediately preceding month. The Borrower shall provide to the Lenders at least five Business Days' notice prior to each Prepayment Date the calculation of the Prepayment Revenue actually received by Borrower for the preceding month, together with the basis for such calculation. The Borrower shall promptly provide to the Lenders such information as the Lenders shall reasonably request to permit the Lenders to verify each such calculation. On October 12, 2012, the

Borrower shall pay to the Lenders the amount, if any, by which the Aggregate Deferred Payments exceed the aggregate Prepayment Revenues theretofore received by the Lenders.

(c) The Borrower shall remit the Final Payment to the Lenders on the Final Payment Date.

(d) The Borrower may prepay each of the Notes at any time with a premium equal to 110% of its outstanding principal amount.

(e) The proceeds of any prepayment made hereunder shall be applied, pro rata, first to accrued and unpaid interest and second, to the outstanding principal amount. Each prepayment shall be allocated 37.28% to Deerfield Private Design Fund II, L.P., 42.72% to Deerfield Private Design International II, L.P., 7.8% to Deerfield Special Situations Fund, L.P. and 12.2% to Deerfield Special Situations Fund International Limited.

Section 2.3 Payments Payments of any amounts due to the Lenders under any Financing Document shall be made in Dollars in immediately available funds prior to 2:30 p.m. New York City time on such date that any such payment is due, at such bank or places as the Lenders shall from time to time designate in writing. The Borrower shall pay all and any costs (administrative or otherwise) imposed by Borrower's banks, clearing houses, or any other financial institution in connection with making any such payments.

Section 2.4 Taxes, Duties and Fees

(a) Any and all payments hereunder or under any other Financing Document shall be made, in accordance with this Section 2.4, free and clear of and without deduction for any and all present or future Indemnified Taxes except as required by applicable law. If Borrower shall be required by law to deduct any Indemnified Taxes from or in respect of any sum payable hereunder or under any other Financing Document, (i) the sum payable shall be increased by as much as shall be necessary so that after making all required deductions (including deductions applicable to additional sums payable under this Section 2.4) the Lenders shall receive an amount equal to the sum they would have received had no such deductions been made (any and all such additional amounts payable to Lenders shall hereafter be referred to as the "Additional Amounts"), (ii) Borrower shall make such deductions, and (iii) Borrower shall pay the full amount deducted to the relevant taxing or other authority in accordance with applicable law. Within thirty (30) days after the date of any payment of such Taxes, Borrower shall furnish to the applicable Lender the original or a certified copy of a receipt evidencing payment thereof or other evidence of such payment reasonably satisfactory to such Lender.

(b) Borrower shall, within ten (10) days of demand therefor, pay to each applicable Lender the full amount of Indemnified Taxes (including any Taxes, other than Excluded Taxes, imposed by any jurisdiction on amounts payable under this Section 2.4) paid by such Lender, as appropriate, and any Liabilities relating thereto.

(c) Each Lender (other than a Foreign Person (as hereafter defined)) on or before the Closing Date shall provide to Borrower a properly completed and executed IRS Form W-9 certifying that such Lender is organized under the laws of the United States. Each Lender organized under the laws of a jurisdiction outside the United States (a "Foreign Person")

shall provide to Borrower a properly completed and executed IRS Form W-8ECI, W-8BEN, W-8IMY or other applicable form, or any other certificate or document reasonably requested by the Borrower certifying that such Foreign Person is entitled to an exemption from United States withholding tax on payments hereunder and under each other Financing Document (a "Certificate of Exemption"). Any Foreign Person that seeks to become a Lender or participant under this Agreement (including by way of assignment from a Lender) shall provide a Certificate of Exemption to Borrower prior to becoming a Lender or participant hereunder. No Foreign Person may become a Lender or participant hereunder if such Person fails to deliver a Certificate of Exemption in advance of becoming a Lender or participant. In addition, a Foreign Person shall deliver a Certificate of Exemption to Borrower promptly upon the obsolescence, expiration or invalidity of any Certificate of Exemption previously delivered by such Person. A Foreign Person shall promptly notify Borrower at any time it determines that it is no longer in a position to provide any previously delivered Certificate of Exemption to Borrower. Notwithstanding anything to the contrary contained herein, a Foreign Person shall not be required to deliver any form, certificate or document pursuant to this Section 2.4 that such Foreign Person is not legally able to deliver; provided, however, that if a Foreign Person does not deliver a Certificate of Exemption or has previously delivered a Certificate of Exemption pursuant to this Section 2.4 but is no longer legally able to or otherwise does not provide a Certificate of Exemption in accordance with the terms hereof (other than by reason of a change in the applicable statutes or treaties or other law), then such Foreign Person shall not be entitled to any payment pursuant to Section 2.4 with respect to any Indemnified Taxes that are attributable to such Foreign Person's inability or failure to deliver a Certificate of Exemption in accordance with the terms hereof.

(d) If a payment made to a Foreign Person hereunder or under any other Financing Document would be subject to withholding tax imposed by FATCA if such Foreign Person were to fail to comply with the applicable requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the IRC, as applicable, or in any agreement or request entered into or issued pursuant to such Sections), such Foreign Person shall deliver to Borrower, at the time or times prescribed by law and at such time or times reasonably requested by Borrower, such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the IRC) and such additional documentation reasonably requested by Borrower as may be necessary for Borrower to comply with its obligations under FATCA, to determine that such Foreign Person has complied with such Foreign Person's obligations under FATCA or to determine the amount to deduct and withhold from such payment.

(e) If a Lender determines in its sole discretion that it has received a refund from a Government Authority relating to Taxes in respect of which the Borrower paid Additional Amounts, such Lender shall promptly pay such refund to the Borrower, net of all reasonable and allocable out-of-pocket expense (including any Taxes imposed thereon) of such Lender incurred in obtaining such refund, provided that the Borrower, upon the request of such Lender, agrees to repay the amount paid over to the Borrower (plus any penalties, interest or other charges imposed by the relevant Governmental Authority), net of any reasonable incremental additional costs, to such Lender if such Lender is required to repay such refund to such Governmental Authority. Nothing in this Section shall require any Lender to disclose any information it deems confidential (including, without limitation, its tax returns) to any Person, including Borrower.

Section 2.5 Interest. The outstanding principal amount of the Loan shall bear interest at the Interest Rate (calculated on the basis of the actual number of days elapsed) and subject to the provisions of Section 2.2(b), shall be paid in arrears quarterly commencing on July 1, 2011 and on the first day of each October, January, April and July thereafter, and if any such day is not a Business Day, on the immediately preceding Business Day.

Section 2.6 Interest on Late Payments. Without limiting the remedies available to the Lenders under the Financing Documents or otherwise, to the maximum extent permitted by applicable law, if the Borrower fails to make any payment of principal or interest when due (other than Aggregate Deferred Payments), the Borrower shall pay, in respect of the outstanding principal amount and interest of the Note, interest at the rate per annum equal to the Interest Rate plus 8% for so long as such payments remain outstanding. Such interest shall be payable on demand.

Section 2.7 Delivery of Warrants.

(a) On the date hereof, the Borrower shall issue to the Lenders Warrants to purchase an aggregate of 6,000,000 shares of Common Stock at an initial Exercise Price (as defined in the Warrants) of $1.57.

(b) All Warrants issued pursuant to this Section 2.7 shall be substantially in the form attached hereto as Exhibit A-5 and shall be allocated among the Lenders as set forth on Schedule 1.

Section 2.8 Facility Fee. On the issue date of the Notes, the Borrower shall pay to the Lenders a facility fee of $500,000.

ARTICLE IIIA

REPRESENTATIONS AND WARRANTIES

Section 3.1A Representations and Warranties of the Borrower The Borrower represents and warrants as of the date hereof as follows:

(a) The Borrower is a corporation duly organized and validly existing under the laws of the State of Delaware.

(b) The Borrower is conducting its business in compliance with the Organizational Documents. The Organizational Documents as currently in effect have been made available to the Lenders and remain in full force and effect.

(c) The Borrower has full power and authority to enter into each of the Financing Documents and to effect the transactions contemplated thereby.

(d) All authorizations, consents, approvals, registrations, exemptions and licenses necessary for the execution and delivery of the Financing Documents and the performance by the Borrower of its obligations thereunder, have been obtained and are in full

force and effect, except for filings necessary to comply with laws, rules, regulations and orders required in the ordinary course of business.

(e) All authorizations, consents, approvals, registrations, exemptions and licenses with or from Government Authorities that are necessary for the conduct of its business as currently conducted and as proposed to be conducted have been obtained and are in full force and effect, except to the extent any failure to so obtain would not reasonably be expected to have a Material Adverse Effect.

(f) No Default or Event of Default (or any other default or event of default, however described) has occurred under any of the Financing Documents.

(g) Neither the entering into any Financing Document nor the compliance with any of its terms conflicts with, violates, or results in a breach of any of the terms of, or constitutes a default or event of default (however described) or requires any consent under, to the extent applicable, (i) any agreement to which the Borrower is a party or by which it or any of its property is bound, (ii) any of the terms of the Organizational Documents or (iii) any judgment, decree, resolution, award or order or any statute, rule or regulation applicable to the Borrower or its assets, in each case.

(h) The Borrower is not engaged in or the subject of any litigation, arbitration, administrative proceeding, or investigation, nor is there any litigation, arbitration, administrative proceeding or investigation pending or, to the knowledge of the Borrower, threatened before or by any Government Authority against the Borrower, and the Borrower is not aware of any facts reasonably likely to give rise to any such proceeding or investigation.

(i) The Borrower (i) is capable of paying its debts as they fall due, (ii) is not bankrupt or, after giving effect to the transactions contemplated hereby, insolvent and (iii) has not taken action, and no such action has been taken by a third party, for the Borrower's winding up, dissolution, or liquidation or similar executory or judicial proceeding or for the appointment of a liquidator, custodian, receiver, trustee, administrator or other similar officer for the Borrower or any or all of its assets or revenues.

(j) No Lien exists on the Borrower's assets except for Permitted Liens.

(k) No Indebtedness exists except for Permitted Indebtedness.

(l) The obligation of the Borrower to make any payment under this Agreement (together with all charges in connection therewith) is absolute and unconditional, and there exists no right of setoff or recoupment, counterclaim, cross-claim or defense of any nature whatsoever to any such payment.

Section 3.2 Borrower Acknowledgment. The Borrower acknowledges that it has made the representations and warranties referred to in Section 3.1A to persuade the Lenders to enter into the Financing Documents and that the Lenders have entered into the Financing Documents on the basis of, and in full reliance on, each of such representations and warranties.

ARTICLE IIIB

CONDITIONS OF DISBURSEMENT

Section 3.1B Conditions to Disbursement of the Loan. The obligation of the Lenders to make the Loan shall be subject to the fulfillment of the following conditions on the date the Loan is made:

(a) The Lenders shall have received evidence reasonably satisfactory to them of the Borrower's authority to execute, deliver and perform each of the Financing Documents and to engage in the transactions contemplated thereby and an opinion of Borrower's counsel satisfactory to the Lenders;

(b) No Default or Event of Default has occurred;

(c) No Liens will exist on the Borrower's assets other than Permitted Liens; and

(d) No Indebtedness will exist except for the Loan and Permitted Indebtedness.

ARTICLE IV

PARTICULAR COVENANTS AND EVENTS OF DEFAULT

Section 4.1 Affirmative Covenants. Unless the Lenders shall otherwise agree:

(a) The Borrower shall (i) maintain its existence and qualification to do business in such jurisdictions as may be required to conduct its business, except where the failure to so maintain such qualification would not reasonably be expected to have a Material Adverse Effect, (ii) maintain all approvals necessary for the Financing Documents to be in effect, and (iii) operate its business with due diligence, efficiency and in conformity with sound business practices.

(b) The Borrower shall comply in all material respects with all applicable laws and rules, regulations and orders of any Government Authority, except where the necessity of compliance therewith is contested in good faith by appropriate proceedings or where the failure to so comply, individually or in the aggregate, would not reasonably be expected to have a Material Adverse Effect.

(c) The Borrower shall obtain, make and keep in full force and effect all licenses, contracts, consents, approvals and authorizations from and registrations with Government Authorities that are necessary to conduct its business, except to the extent that the failure to do so would not reasonably be expected to have a Material Adverse Effect.

(d) The Borrower shall promptly notify the Lenders of the occurrence of (i) any Default or Event of Default; or (ii) any claims, litigation, arbitration, mediation or administrative or regulatory proceedings that are instituted against the Borrower.

(e) (i) The Borrower will timely file with the SEC (subject to appropriate extensions made under Rule 12b-25 of the Securities Exchange Act) any annual, quarterly and other reports required pursuant to Section 13 or 15(d) of the Securities Exchange Act prepared by the Borrower; and (ii) the Borrower will provide to the Lenders copies of all documents, reports, financial data and other information as the Lenders may reasonably request, and upon reasonable prior notice to the Borrower, permit the Lenders to visit and inspect any of the properties of the Borrower, and to discuss its affairs, finances and accounts with its officers, all at such times during regular business hours as the Lenders may reasonably request.

(f) In the event the closing price of the Common Stock on the principal securities exchange or other securities market on which the Common Stock is then being traded or quoted is greater than $2.50 for ten (10) consecutive Trading Days (the "Ten Day Period"), then following such Ten Day Period, the Borrower shall use its best efforts to cause the shares of Common Stock to be listed, traded or publicly quoted on an Eligible Market as soon thereafter as reasonably practicable but in no event more than one hundred and twenty (120) days thereafter. For purposes of this Section 4.1(f), "Eligible Market" means the New York Stock Exchange, Inc., the NYSE Area, the NASDAQ Capital Market, the NASDAQ Global Market, the NASDAQ Global Select Market or the NYSE Alternext U.S.

Section 4.2 Negative Covenants. Unless the Lenders shall otherwise agree:

(a) The Borrower shall not (i) liquidate or dissolve, or (ii) enter into any consolidation, merger or reorganization, unless the Borrower is the surviving corporation.

(b) The Borrower shall not (i) enter into any partnership, joint venture, syndicate, pool, profit-sharing or royalty agreement or other combination, or engage in any transaction, in each case, with an Affiliate, whereby its income or profits are, or might be, shared with such Affiliate, (ii) enter into any management contract or similar arrangement with any Person (other than an officer or employee of the Borrower) whereby a substantial part of its business is managed by such Person, (iii) enter into any partnering arrangement with any Affiliate with respect to and/or license and/or sell all or any portion of Borrower's interest in Probuphine to any Affiliate; and (iv) other than in connection with Permitted Distributions, distribute, or permit the distribution, of any assets of the Borrower or its Subsidiaries, including its intangibles, to any shareholders of the Borrower or the holder of any equity interest in any Subsidiary of the Borrower or any of the Borrower's Affiliates (other than the Borrower or a Subsidiary of the Borrower).

(c) The Borrower shall not create, incur assume, guarantee or become liable with respect to any Indebtedness, other than Permitted Indebtedness, or voluntarily prepay any Indebtedness, except prepayments of the Notes. Nothing contained herein or in any other Financing Document shall prohibit or be deemed to prohibit in any manner whatsoever Borrower's right to pay deferred compensation to employees.

(d) The Borrower shall not incur any Liens other than Permitted Liens.

Section 4.3 Reimbursement of Other Taxes. The Borrower shall pay all Other Taxes and shall, upon notice from the Lenders, reimburse the Lenders for any such Other Taxes, in accordance with the terms of Section 2.4 hereof.

Section 4.4 Major Transaction Put. The Borrower shall give the Lenders notice of the consummation of a Major Transaction on the shorter of 30 days prior to such consummation or 2 days following the public announcement thereof. Within 5 days after the receipt of such notice, the Lenders, in the exercise of their sole discretion, may deliver a notice to the Borrower (the "Put Notice"), that the Final Payment shall be due and payable. If the Lenders deliver a Put Notice, then simultaneously with consummation of any such Major Transaction, the Borrower shall make the Final Payment to the Lenders and the Obligations shall terminate. The Borrower shall not consummate any Major Transaction without complying with the provisions of this Section 4.4.

Section 4.5 General Acceleration Provision upon Events of Default. If one or more of the events specified in this Section 4.5 (each an "Event of Default") shall have happened and shall be continuing, the Lenders, by written notice to the Borrower, (any such notice, an "Acceleration Notice"), may declare the principal of, accrued interest on, the Loan or any part thereof (together with any other amounts accrued or payable under this Agreement) to be, and the same shall thereupon become, immediately due and payable, without any further notice and without any presentment, demand, or protest of any kind, all of which are hereby expressly waived by the Borrower, and take any further action available at law or in equity, including, without limitation, the sale of the Loan and all other rights acquired in connection with the Loan, subject, however, to the assignment provisions in Section 5.5 hereof; provided, however, that an Acceleration Notice shall be deemed to have been sent to Borrower immediately upon the occurrence of any event described in Section 4.5(d) and, in the case of a proceeding of the type described in Section 4.5(d)(iv), shall be deemed to have been withdrawn if such proceeding is dismissed or discontinued within the 90-day period provided for therein (absent the occurrence of any other Event of Default during such 90-day period):

(a) A Lender shall have failed to receive payment of principal and interest when due under the Notes.

(b) The Borrower shall have failed to comply with the due observance or performance of any covenant contained in any Financing Document and such failure to comply has not been cured by Borrower within ten (10) days after the occurrence thereof; provided, however, that if the such non-compliance cannot by its nature be cured within such ten (10) day period or cannot after diligent attempts by Borrower be cured within such ten (10) day period, and such default is likely to be cured within a reasonable time, then Borrower shall have an additional period (which shall not in any case exceed thirty (30) days) to attempt to cure such non-compliance, and within such reasonable time period the failure to cure such non-compliance shall not be deemed an Event of Default.

(c) Any representation or warranty made by the Borrower in any Financing Document shall have been incorrect, false or misleading in any material respect as of the date it was made.

(d) (i) The Borrower shall generally be unable to pay its debts as such debts become due, or shall admit in writing its inability to pay its debts as they come due or shall make a general assignment for the benefit of creditors; (ii) the Borrower shall declare a moratorium on the payment of its debts; (iii) the commencement by the Borrower of proceedings to be adjudicated bankrupt or insolvent, or the consent by it to the commencement of bankruptcy or insolvency proceedings against it, or the filing by it of a petition or answer or consent seeking reorganization, intervention or other similar relief under any applicable law, or the consent by it to the filing of any such petition or to the appointment of an intervenor, receiver, liquidator, assignee, trustee, sequestrator (or other similar official) of any substantial part of its assets; (iv) the commencement against the Borrower or any substantial part of its assets of a proceeding in any court of competent jurisdiction under any bankruptcy or other applicable law (as now or hereafter in effect) seeking its liquidation, winding up, dissolution, reorganization, arrangement, adjustment, or the appointment of an intervenor, receiver, liquidator, assignee, trustee, sequestrator (or other similar official), and any such proceeding shall continue undismissed, or any order, judgment or decree approving or ordering any of the foregoing shall continue unstayed or otherwise in effect, in each case, for a period of ninety (90) days; (v) the making by the Borrower of an assignment for the benefit of creditors, or the admission by it in writing of its inability to pay its debt generally as they become due; or (vi) any other event shall have occurred which under any applicable law would have an effect analogous to any of those events listed above in this subsection.

(e) One or more judgments against the Borrower taken as a whole or attachments against any of its property, which in the aggregate amount exceeds $100,000, and such judgment(s) remain unstayed on appeal, undischarged, unbonded or undismissed for a period of thirty (30) days from the date of entry of such judgment(s).

(f) The Borrower repudiates any Financing Document or challenges the validity or enforceability of any Financing Document.

(g) The validity of any Financing Document shall be contested by any legislative, executive or judicial body of any jurisdiction, or any treaty, law, regulation, communiqué, decree, ordinance or policy of any jurisdiction shall render any provision of any Financing Document unenforceable or shall prevent or materially delay the performance or observance by the Borrower of the Obligations.

(h) There is a failure to perform in any agreement to which the Borrower is a party resulting in the acceleration of the maturity of any Indebtedness in an amount in excess of $100,000.

(i) The occurrence of an Event of Default under the Warrants (as such item is defined in the Warrants).

(j) The Borrower breaches any of its agreements contained in the Royalty Agreement dated the date hereof between the Borrower, Deerfield TTNP Corp. and Deerfield Private Design Fund II, L.P. and such breach is not cured within thirty (30) days following written notice thereof from Lenders.

(k) The director (the "Director") of the United States Patent and Trademark Office (the "USPTO") does not issue a certificate of extension extending the term of the Patent #RE39,198 (the "Fanapt Patent") prior to the expiration thereof by not less than four years from its current expiration date of November 15, 2011. Notwithstanding the foregoing, if the Director does issue a certificate of extension extending the Fanapt Patent by not less than four years from its current expiration date of November 15, 2011, but such certificate does not issue prior to November 15, 2011, and the Director and/or the USPTO has granted an interim extension(s) maintaining the Fanapt Patent pending the issuance of the certificate of extension, no Event of Default shall be deemed to have occurred unless and until the Fanapt Patent expires without the issuance of a certificate of extension extending the Fanapt Patent by not less than four years from its current expiration date of November 15, 2011.

Section 4.6 Automatic Acceleration on Dissolution or Bankruptcy. Notwithstanding any other provisions of this Agreement, if an Event of Default under Section 4.5(d) shall occur, the Final Payment shall thereupon become immediately due and payable without any presentment, demand, protest or notice of any kind, all of which are hereby expressly waived by the Borrower.

Section 4.7 Recovery of Amounts Due If any amount payable hereunder is not paid within ten (10) Business Days of its due date, the Borrower hereby authorizes the Lenders to proceed, to the fullest extent permitted by applicable law, without prior notice, by right of set-off, banker's lien or counterclaim, against any moneys or other assets of the Borrower to the full extent of all amounts payable to the Lenders.

ARTICLE V

MISCELLANEOUS

Section 5.1 Notices. Any communication required or permitted pursuant to this Agreement shall be deemed given (a) when personally delivered to any officer of the party to whom it is addressed, (b) on the earlier of actual receipt thereof or five (5) days following posting thereof by certified or registered mail, postage prepaid, return receipt requested, (c) upon actual receipt thereof when sent by a recognized overnight delivery service, or (d) upon actual receipt thereof when sent by telecopier to the number set forth below with telephone communication confirming receipt and subsequently confirmed by registered or certified mail, return receipt requested, or by recognized overnight delivery service to the address set forth below, in each case addressed to the applicable party at its address set forth below or at such other address as has been furnished in writing by such party to the other by like notice:

For the Borrower:

400 Oyster Point Blvd.
Suite 505
South San Francisco, CA 94080
Attention: Chief Executive Officer
Facsimile: (650) 244-4956

With a copy to:

Loeb & Loeb LLP
345 Park Avenue
New York, NY 10154
Attention: Fran Stoller
Facsimile: (212) 214-0706

For the Lenders c/o:

Deerfield Private Design Fund II, L.P.
780 Third Avenue, 37th Floor
New York, New York 10017
Attention: Structured Products
Facsimile: (212) 599-3075

With a copy to:

Katten Muchin Rosenman LLP
575 Madison Avenue
New York, NY 10022
Attention: Mark I. Fisher and Elliot Press
Facsimile: (212) 940-6621

Section 5.2 Waiver of Notice. Whenever any notice is required to be given to the Lenders or the Borrower under any Financing Document, a waiver thereof in writing signed by the Person(s) entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice.

Section 5.3 Reimbursement of Legal and Other Expenses. If any amount owing to the Lenders under any Financing Document shall be collected through enforcement of such Financing Document, any refinancing or restructuring of the Loan in the nature of a work-out, settlement, negotiation, or any process of law, or shall be placed in the hands of third Persons for collection, the Borrower shall pay (in addition to all monies then due in respect of the Loan or otherwise payable under any Financing Document) reasonable attorneys' and other reasonable fees and expenses incurred in respect of such enforcement, refinancing, restructuring, process of law on collection.

Section 5.4 Applicable Law and Consent to Non-Exclusive New York Jurisdiction. This Agreement shall be construed in accordance with the laws of the State of New York, without giving effect to the conflicts of laws principles thereof other than Sections 5-1401 and 5-1402 of the General Obligations Law of such State.

(a) Each party hereby irrevocably submits to the jurisdiction of the state and federal courts sitting in The City of New York or the city of Los Angeles for the adjudication of any dispute in connection herewith or any transaction contemplated hereby, and hereby irrevocably waives and agrees not to assert in any suit, action or other proceeding (a "Proceeding"), any claim that it is not personally subject to the jurisdiction of any such court or

that such Proceeding is improper such court. Final non-appealable judgment against any party in any such Proceeding shall be conclusive and may be enforced in any jurisdiction by suit on the judgment. Nothing contained in any Financing Document shall affect the right of the Lenders to commence a Proceeding in any court having jurisdiction, or concurrently in more than one jurisdiction, or to serve process, pleadings and other legal papers upon the Borrower in any manner authorized by the laws of any such jurisdiction. The Borrower irrevocably waives, to the fullest extent permitted by applicable law, any objection which it may now or hereafter have to the laying of venue of any Proceeding brought in the courts of the State of New York or in the United States District Court for the Southern District of New York, and any claim that any such Proceeding brought in any such court has been brought in an inconvenient forum.

(b) The Borrower hereby waives any and all rights to demand a trial by jury in any Proceeding described above.

(c) To the extent that the Parties may, in any Proceeding, be entitled to the benefit of any provision of law requiring the Borrower or the Lenders, as applicable, in such Proceeding to post security for the costs of the Borrower or the Lenders, as applicable, or to post a bond or to take similar action, the Parties hereby irrevocably waive such benefit, in each case to the fullest extent now or hereafter permitted under any applicable laws.

Section 5.5 Successor and Assigns. This Agreement shall bind and inure to the respective successors and assigns of the Parties, except that the Borrower may not assign or otherwise transfer all or any part of its rights under this Agreement or the Obligations without the prior written consent of the Lenders. Notwithstanding the foregoing, nothing in this Section 5.5 shall be deemed to limit or otherwise restrict a merger, reorganization or sale of substantially all of the assets of the Borrower otherwise permitted hereunder.

Section 5.6 Entire Agreement. The Financing Documents contain the entire understanding of the Parties with respect to the matters covered thereby and supersede any and all other written and oral communications, negotiations, commitments and writings with respect thereto. The provisions of this Agreement may be waived, modified, supplemented or amended only by an instrument in writing signed by the authorized officer of each Party.

Section 5.7 Severability. If any provision contained herein shall be unenforceable under any law, the enforceability of the remaining provisions shall not be affected or impaired thereby. The Parties shall endeavor in good faith negotiations to replace the unenforceable provision with an enforceable provision the economic effect of which comes as close as possible to that of the unenforceable provision.

Section 5.8 Counterparts. This Agreement may be executed in several counterparts, and by each Party on separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same agreement.

Section 5.9 Survival

(a) This Agreement and all agreements, representations and warranties made in the other Financing Documents, and in any document, certificate or statement delivered in connection therewith shall be considered to have been relied upon by the Parties and shall

survive the execution and delivery of this Agreement and the making of the Loan regardless of any investigation made by any Party or on its behalf, and shall continue in force until the Obligations shall have been fully paid, and the Lenders shall not be deemed to have waived, by reason of making the Loan, any Default that may arise by reason of such representation or warranty proving to have been false or misleading, notwithstanding that the Lenders may have had notice or knowledge that such representation or warranty was false or misleading on the date hereof.

(b) The obligations of the Borrower under Section 2.4 and the obligations of the Borrower and the Lenders under this Section 5.9 hereof shall remain in full force and effect regardless of the consummation of the transactions contemplated hereby, the repayment of the Loan, or the termination of this Agreement or any provision hereof.

Section 5.10 Waiver Neither the failure of, nor any delay on the part of, any Party in exercising any right, power or privilege hereunder, or under any agreement, document or instrument mentioned herein, shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or privilege hereunder, or under any agreement, document or instrument mentioned herein, preclude other or further exercise thereof or the exercise of any other right, power or privilege; nor shall any waiver of any right, power, privilege or default hereunder, or under any agreement, document or instrument mentioned herein, constitute a waiver of any other right, power, privilege or default or constitute a waiver of any default of the same or of any other term or provision. No course of dealing and no delay in exercising, or omission to exercise, any right, power or remedy accruing to the Lenders upon any default under this Agreement, or any other agreement shall impair any such right, power or remedy or be construed to be a waiver thereof or an acquiescence therein; nor shall the action of the Lenders in respect of any such default, or any acquiescence by it therein, affect or impair any right, power or remedy of the Lenders in respect of any other default. All rights and remedies herein provided are cumulative and not exclusive of any rights or remedies otherwise provided by law.

Section 5.11 Indemnity

(a) The Parties shall, at all times, indemnify and hold each other (the "Indemnity") and each of their respective directors, partners, officers, employees, agents, counsel and advisors (each, an "Indemnified Person") harmless in connection with any losses, claims (including the cost of defending against such claims), damages, liabilities, penalties, or other expenses which may be incurred by or asserted against an Indemnified Person arising out of, any investigation, litigation or proceeding, relating to the Financing Documents (together, a "Loss") the extension of credit hereunder or the Loan or the use or intended use of the Loan, which an Indemnified Person may incur or to which an Indemnified Person may become subject. The Indemnity shall not apply to the extent that a court or arbitral tribunal with jurisdiction over the subject matter of the Loss, and over the Lenders or the Borrower, as applicable, and such other Indemnified Person that had an adequate opportunity to defend its interests, determines that such Loss resulted from the gross negligence or willful misconduct of the Indemnified Person, which determination results in a final, non-appealable judgment or decision of a court or tribunal of competent jurisdiction. The Indemnity is independent of and in addition to any other agreement of any Party under any Financing Document to pay any amount to the Lenders or the Borrower, as applicable, and any exclusion of any obligation to pay any amount under this subsection shall

not affect the requirement to pay such amount under any other section hereof or under any other agreement. The indemnification provisions of this Section 5.11(a) shall be subject to Section 2.4 hereof.

(b) Without prejudice to the survival of any other agreement of any of the Parties hereunder, the agreements and the obligations of the Parties contained in this Section 5.11 shall survive the termination of each other provision hereof and the payment of all amounts payable to the Lenders hereunder.

Section 5.12 No Usury. The Financing Documents are hereby expressly limited so that in no contingency or event whatsoever, whether by reason of acceleration or otherwise, shall the amount paid or agreed to be paid to the Lenders for the Loan exceed the maximum amount permissible under applicable law. If from any circumstance whatsoever fulfillment of any provision hereof, at the time performance of such provision shall be due, shall involve transcending the limit of validity prescribed by law, then, ipso facto, the obligation to be fulfilled shall be reduced to the limit of such validity, and if from any such circumstance the Lenders shall ever receive anything which might be deemed interest under applicable law, that would exceed the highest lawful rate, such amount that would be deemed excessive interest shall be applied to the reduction of the principal amount owing on account of the Loan, or if such deemed excessive interest exceeds the unpaid balance of principal of the Loan, such deemed excess shall be refunded to the Borrower. All sums paid or agreed to be paid to the Lenders for the Loan shall, to the extent permitted by applicable law, be deemed to be amortized, prorated, allocated and spread throughout the full term of the Loan until payment in full so that the deemed rate of interest on account of the Loan is uniform throughout the term thereof. The terms and provisions of this paragraph shall control and supersede every other provision of this Agreement and the Notes.

Section 5.13 Further Assurances. From time to time, the Borrower shall perform any and all acts and execute and deliver to the Lenders such additional documents as may be necessary or as requested by the Lenders in each case as determined by the Lenders in the good faith exercise of their reasonable discretion to carry out the purposes of any Financing Document or any or to preserve and protect the Lenders' rights as contemplated therein.

Section 5.14 Termination. The Borrower may by notice to the Lenders terminate the Agreement upon repayment of the Obligations whereupon the Obligations shall terminate subject to the provisions of Section 5.9(b).

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties, acting through their duly authorized representatives, have caused this Agreement to be signed in their respective names as of the date first above written.

BORROWER:

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle
Name: Sunil Bhonsle
Title: President

LENDER:

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

LENDER:

DEERFIELD PRIVATE DESIGN INTERNATIONAL II, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

LENDER:

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

LENDER:

DEERFIELD SPECIAL SITUATIONS FUND INTERNATIONAL LIMITED

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

SCHEDULE 1

LENDERS

Lender	Principal Amount of Note	Number of Shares of Common Stock Underlying Warrants
Deerfield Private Design Fund II, L.P.	$ 7,456,000	2,236,800
Deerfield Private Design International II, L.P.	$ 8,544,000	2,563,200
Deerfield Special Situations Fund, L.P.	$ 1,560,000	468,000
Deerfield Special Situations Fund International Limited	$ 2,440,000	732,000
Total	**$ 20,000,000**	**6,000,000**

EXHIBIT A-1

FORM OF NOTE

PROMISSORY NOTE

THIS NOTE IS BEING ISSUED WITH ORIGINAL ISSUE DISCOUNT ("OID"). THE FOLLOWING INFORMATION IS BEING PROVIDED PURSUANT TO TREASURY REGULATION SECTION 1.1275-3:

ISSUE PRICE:

AMOUNT OF OID:

ISSUE DATE:

YIELD TO MATURITY:

March __, 2011

FOR VALUE RECEIVED, TITAN PHARMACEUTICALS, INC., a Delaware corporation (the "Maker"), by means of this Promissory Note (this "Note"), hereby unconditionally promises to pay to Deerfield Private Design International II, L.P. (the "Payee"), a principal amount equal to $8,544,000, in lawful money of the United States of America and in immediately available funds, on the dates provided in the Facility Agreement.

This Note is a "Note" referred to in the Facility Agreement dated as of March 15, 2011 among the Maker, the Payee and the other parties thereto (as modified and supplemented and in effect from time to time, the "Facility Agreement"), with respect to the Loan made by the Payee thereunder. Capitalized terms used herein and not expressly defined in this Note shall have the respective meanings assigned to them in the Facility Agreement.

This Note shall bear interest on the principal amount hereof pursuant to the provisions of the Facility Agreement.

The Maker shall make all payments to the Payee of interest and principal under this Note in the manner provided in and otherwise in accordance with the Facility Agreement. The outstanding principal amount of this Note shall be due and payable in full on the Maturity Date.

If default is made in the punctual payment of principal or any other amount under this Note in accordance with the Facility Agreement, or if any other Event of Default has occurred and is continuing, this Note shall, at the Payee's option exercised at any time upon or after the occurrence and during the continuance of any such payment default or other Event of Default and in accordance with the applicable provisions of the Facility Agreement, become immediately due and payable.

All payments of any kind due to the Payee from the Maker pursuant to this Note shall be made in the full face amount thereof. Subject to the terms of the Facility Agreement, all such payments will be free and clear of, and without deduction or withholding for, any present or future taxes. The Maker shall pay all and any costs (administrative or otherwise) imposed by the Maker's banks, clearing houses, or any other financial institution, in connection with making any payments hereunder.

The Maker shall pay all costs of collection, including, without limitation, all reasonable, documented legal expenses and attorneys' fees, paid or incurred by the Payee in collecting and enforcing this Note.

Other than those notices required to be provided by Payee to Maker under the terms of the Facility Agreement, the Maker and every endorser of this Note, or the obligations represented hereby, expressly waives presentment, protest, demand, notice of dishonor or default, and notice of any kind with respect to this Note and the Facility Agreement or the performance of the obligations under this Note and/or the Facility Agreement. No renewal or extension of this Note or the Facility Agreement, no release of any Person primarily or secondarily liable on this Note or the Facility Agreement, including the Maker and any endorser, no delay in the enforcement of payment of this Note or the Facility Agreement, and no delay or omission in exercising any right or power under this Note or the Facility Agreement shall affect the liability of the Maker or any endorser of this Note.

No delay or omission by the Payee in exercising any power or right hereunder shall impair such right or power or be construed to be a waiver of any default, nor shall any single or partial exercise of any power or right hereunder preclude the full exercise thereof or the exercise of any other power or right. The provisions of this Note may be waived or amended only in a writing signed by the Maker and the Payee. This Note may be prepaid in whole or in part in accordance with the provisions of the Facility Agreement.

This Note, and any rights of the PAYEE arising out of or relating to this Note, may, at the option of the Payee, be enforced by the Payee in the courts of the United States of America located in the Southern District of the State of New York or in any other courts having jurisdiction. For the benefit of the Payee, the Maker hereby irrevocably agrees that any legal action, suit or other proceeding arising out of or relating to this Note may be brought in the courts of the State of New York or of the United States of America for the Southern District of New York, and hereby consents that personal service of summons or other legal process may be made as set forth in Section 5.1 of the FACILITY Agreement, which service the Maker agrees shall be sufficient and valid. THE MAKER HEREBY waives any and all rights to demand a trial by jury in any action, suit or OTHER proceeding arising out of or relating to this NOTE or the transactions contemplated by this NOTE.

This Note shall be governed by, and construed in accordance with, the laws of the State of New York applicable to contracts made and to be performed in such State, without giving effect to the conflicts of laws principles thereof other than Sections 5-1401 and 5-1402 of the General Obligations Law of the State of New York.

Whenever this Note is held by a noteholder that is not a "United States person" within the meaning of Section 7701(a)(30) of the Internal Revenue Code of 1986, as amended (the "Code"), then it is the intention of the Maker and such noteholder that (x) all interest accrued and paid on this Note will qualify for exemption from United States withholding tax as "portfolio interest" because this Note is an obligation which is in "registered form" within the meaning of Sections 871(h)(2)(B) and 881(c)(2)(B) of the Code and the applicable Treasury Regulations promulgated thereunder, and (y) as such, all interest accrued and paid on this Note will be exempt from United States information reporting under Sections 6041 and 6049 of the Code and United States backup withholding under Section 3406 of the Code. The Maker and the Payee shall cooperate with one another, and execute and file such forms or other documents, or do or refrain from doing such other acts, as may be required, to secure such exemptions from United States withholding tax, information reporting, and backup withholding. In furtherance of the foregoing, any noteholder, transferee or assignee noteholder that is not a United States person shall represent, warrant and covenant to the Maker that (i) neither such noteholder nor, if any IRS Form W-8IMY is provided, any of such noteholder's members, partners, beneficiaries or owners is, or will be as long as any amounts due under this Note have not been paid in full, a person described in Section 871(h)(3) or 881(c)(3) of the Code; (ii) on or prior to the date of transfer or assignment (and on or prior to the date the form provided pursuant to this clause (ii) is no longer valid) until all amounts due under this Note have been paid in full, such noteholder shall provide the Maker with a properly completed and executed U.S. Internal Revenue Service ("IRS") Form W-8IMY or W-8BEN, as applicable (or any successor form prescribed by the IRS), certifying as to such noteholder's status for purposes of determining exemption from United States withholding tax, information reporting and backup withholding with respect to all payments to be made to such noteholder hereunder; (iii) if an event occurs that would require a change in the exempt status of such noteholder or any of the other information provided on the most recent IRS Form W-8IMY or W-8BEN (or successor form), as applicable, previously submitted by such noteholder to the Maker, such noteholder will so inform the Maker in writing (or by submitting to the Maker a new IRS Form W-8IMY or W-8BEN or successor form) within 30 days after the occurrence of such event; and (iv) such noteholder will not assign or otherwise transfer this Note or any of its rights hereunder except in accordance with the provisions hereof.

In order to qualify as a "registered note" for purposes of the Code, transfer of this Note may be effected only by (i) surrender of this Note to the Maker and the re-issuance of this Note to the transferee, or the Maker's issuance to the Payee of a new note in the same form as this Note but with the transferee denoted as the Payee, or (ii) the recording of the identity of the transferee by the Affiliate of the Payee that is maintaining a record ownership register of this Note as a non-fiduciary agent of, and on behalf of, the Maker for the tax purposes set forth herein. Such Affiliate in its capacity as such agent shall notify the Maker in writing immediately upon any change in such identity. The terms and conditions of this Note shall be binding upon and inure to the benefit of the Maker and the Payee and their permitted assigns; provided, however, that if any such assignment (whether by operation of law, by way of transfer or participation, or otherwise) is to any noteholder that is not a "United States person" within the meaning of Section 7701(a)(30) of the Code, then such noteholder shall submit to the Maker on or before the date of such assignment an IRS Form W-8IMY or W-8BEN (or any successor form), as applicable, certifying as to such noteholder's status for purposes of determining exemption from United States withholding tax, information reporting and backup withholding with respect to all payments to be made to such noteholder under the new note (or other

instrument). Any attempted transfer in violation of the relevant provisions of this Note shall be void and of no force and effect. Until there has been a valid transfer of this Note and of all of the rights hereunder by the Payee in accordance with this Note, the Maker shall deem and treat the Payee as the absolute beneficial owner and holder of this Note and of all of the rights hereunder for all purposes (including, without limitation, for the purpose of receiving all payments to be made under this Note).

It is the intention of the Maker and the Payee that this Note is to be a registered instrument and not a bearer instrument and the provisions of this Note are to be interpreted accordingly. This Note is intended to be registered as to both principal and interest and all payments hereunder shall be made to the named Payee or, in the event of a transfer pursuant to the Facility Agreement and this Note, to the transferee identified in the record of ownership of this Note maintained by the Affiliate of the Payee on behalf of the Maker. Transfer of this Note may not be effected except in accordance with the provisions hereof.

IN WITNESS WHEREOF, an authorized representative of the Maker has executed this Note as of the date first written above.

TITAN PHARMACEUTICALS, INC.

By: _____

Name:
Title:

EXHIBIT A-2

FORM OF NOTE

THIS NOTE IS BEING ISSUED WITH ORIGINAL ISSUE DISCOUNT ("OID"). THE FOLLOWING INFORMATION IS BEING PROVIDED PURSUANT TO TREASURY REGULATION SECTION 1.1275-3:

ISSUE PRICE:

AMOUNT OF OID:

ISSUE DATE:

YIELD TO MATURITY:

PROMISSORY NOTE

March __, 2011

FOR VALUE RECEIVED, TITAN PHARMACEUTICALS INC., a Delaware corporation (the "Maker"), by means of this Promissory Note (this "Note"), hereby unconditionally promises to pay to Deerfield Private Design Fund II, L.P. (the "Payee"), a principal amount equal to $7,456,000, in lawful money of the United States of America and in immediately available funds, on the dates provided in the Facility Agreement.

This Note is a "Note" referred to in the Facility Agreement dated as of March 15, 2011 among the Maker, the Payee and the other parties thereto (as modified and supplemented and in effect from time to time, the "Facility Agreement"), with respect to the Loan made by the Payee thereunder. Capitalized terms used herein and not expressly defined in this Note shall have the respective meanings assigned to them in the Facility Agreement.

This Note shall bear interest on the principal amount hereof pursuant to the provisions of the Facility Agreement.

The Maker shall make all payments to the Payee of interest and principal under this Note in accordance with the Facility Agreement. The outstanding principal amount of this Note shall be due and payable in full on the Maturity Date.

If default is made in the punctual payment of principal or any other amount under this Note in accordance with the Facility Agreement, or if any other Event of Default has occurred and is continuing, this Note shall, at the Payee's option exercised at any time upon or after the occurrence and during the continuance of any such payment default or other Event of Default and in accordance with the applicable provisions of the Facility Agreement, become immediately due and payable.

All payments of any kind due to the Payee from the Maker pursuant to this Note shall be made in the full face amount thereof. Subject to the terms of the Facility Agreement, all such payments will be free and clear of, and without deduction or withholding for, any present or future taxes. The Maker shall pay all and any costs (administrative or otherwise) imposed by the Maker's banks, clearing houses, or any other financial institution, in connection with making any payments hereunder.

The Maker shall pay all costs of collection, including, without limitation, all reasonable, documented legal expenses and attorneys' fees, paid or incurred by the Payee in collecting and enforcing this Note.

Other than those notices required to be provided by the Payee to the Maker under the terms of the Facility Agreement, the Maker and every endorser of this Note, or the obligations represented hereby, expressly waives presentment, protest, demand, notice of dishonor or default, and notice of any kind with respect to this Note and the Facility Agreement or the performance of the obligations under this Note and/or the Facility Agreement. No renewal or extension of this Note or the Facility Agreement, no release of any Person primarily or secondarily liable on this Note or the Facility Agreement, including the Maker and any endorser, no delay in the enforcement of payment of this Note or the Facility Agreement, and no delay or omission in exercising any right or power under this Note or the Facility Agreement shall affect the liability of the Maker or any endorser of this Note.

No delay or omission by the Payee in exercising any power or right hereunder shall impair such right or power or be construed to be a waiver of any default, nor shall any single or partial exercise of any power or right hereunder preclude the full exercise thereof or the exercise of any other power or right. The provisions of this Note may be waived or amended only in a writing signed by the Maker and the Payee. This Note may be prepaid in whole or in part in accordance with the provisions of the Facility Agreement.

This Note, and any rights of the PAYEE arising out of or relating to this Note, may, at the option of the Payee, be enforced by the Payee in the courts of the United States of America located in the Southern District of the State of New York or in any other courts having jurisdiction. For the benefit of the Payee, the Maker hereby irrevocably agrees that any legal action, suit or other proceeding arising out of or relating to this Note may be brought in the courts of the State of New York or of the United States of America for the Southern District of New York, and hereby consents that personal service of summons or other legal process may be made as set forth in Section 5.1 of the FACILITY Agreement, which service the Maker agrees shall be sufficient and valid. THE MAKER HEREBY waives any and all rights to demand a trial by jury in any action, suit or OTHER proceeding arising out of or relating to this NOTE or the transactions contemplated by this NOTE.

This Note shall be governed by, and construed in accordance with, the laws of the State of New York applicable to contracts made and to be performed in such State, without giving effect to the conflicts of laws principles thereof other than Sections 5-1401 and 5-1402 of the General Obligations Law of the State of New York.

Whenever this Note is held by a noteholder that is not a "United States person" within the meaning of Section 7701(a)(30) of the Internal Revenue Code of 1986, as amended (the "Code"), then it is the intention of the Maker and such noteholder that (x) all interest accrued and paid on this Note will qualify for exemption from United States withholding tax as "portfolio interest" because this Note is an obligation which is in "registered form" within the meaning of Sections 871(h)(2)(B) and 881(c)(2)(B) of the Code and the applicable Treasury Regulations promulgated thereunder, and (y) as such, all interest accrued and paid on this Note will be exempt from United States information reporting under Sections 6041 and 6049 of the Code and United States backup withholding under Section 3406 of the Code. The Maker and the Payee shall cooperate with one another, and execute and file such forms or other documents, or do or refrain from doing such other acts, as may be required, to secure such exemptions from United States withholding tax, information reporting, and backup withholding. In furtherance of the foregoing, any noteholder or transferee or assignee noteholder that is not a United States person shall represent, warrant and covenant to the Maker that (i) neither such noteholder nor, if any IRS Form W-8IMY is provided, any of such noteholder's members, partners, beneficiaries or owners is, or will be as long as any amounts due under this Note have not been paid in full, a person described in Section 871(h)(3) or 881(c)(3) of the Code; (ii) on or prior to the date of transfer or assignment (and on or prior to the date the form provided pursuant to this clause (ii) is no longer valid) until all amounts due under this Note have been paid in full, such noteholder shall provide the Maker with a properly completed and executed U.S. Internal Revenue Service ("IRS") Form W-8IMY or W-8BEN, as applicable (or any successor form prescribed by the IRS), certifying as to such noteholder's status for purposes of determining exemption from United States withholding tax, information reporting and backup withholding with respect to all payments to be made to such noteholder hereunder; (iii) if an event occurs that would require a change in the exempt status of such noteholder or any of the other information provided on the most recent IRS Form W-8IMY or W-8BEN (or successor form), as applicable, previously submitted by such noteholder to the Maker, such noteholder will so inform the Maker in writing (or by submitting to the Maker a new IRS Form W-8IMY or W-8BEN or successor form) within 30 days after the occurrence of such event; and (iv) such noteholder will not assign or otherwise transfer this Note or any of its rights hereunder except in accordance with the provisions hereof.

In order to qualify as a "registered note" for purposes of the Code, transfer of this Note may be effected only by (i) surrender of this Note to the Maker and the re-issuance of this Note to the transferee, or the Maker's issuance to the Payee of a new note in the same form as this Note but with the transferee denoted as the Payee, or (ii) the recording of the identity of the transferee by the Affiliate of the Payee that is maintaining a record ownership register of this Note as a non-fiduciary agent of, and on behalf of, the Maker for the tax purposes set forth herein. Such Affiliate in its capacity as such agent shall notify the Maker in writing immediately upon any change in such identity. The terms and conditions of this Note shall be binding upon and inure to the benefit of the Maker and the Payee and their permitted assigns; provided, however, that if any such assignment (whether by operation of law, by way of transfer or participation, or otherwise) is to any noteholder that is not a "United States person" within the meaning of Section 7701(a)(30) of the Code, then such noteholder shall submit to the Maker on or before the date of such assignment an IRS Form W-8IMY or W-8BEN (or any successor form), as applicable, certifying as to such noteholder's status for purposes of determining exemption from United States withholding tax, information reporting and backup withholding with respect to all payments to be made to such noteholder under the new note (or other

instrument). Any attempted transfer in violation of the relevant provisions of this Note shall be void and of no force and effect. Until there has been a valid transfer of this Note and of all of the rights hereunder by the Payee in accordance with this Note, the Maker shall deem and treat the Payee as the absolute beneficial owner and holder of this Note and of all of the rights hereunder for all purposes (including, without limitation, for the purpose of receiving all payments to be made under this Note).

It is the intention of the Maker and the Payee that this Note is to be a registered instrument and not a bearer instrument and the provisions of this Note are to be interpreted accordingly. This Note is intended to be registered as to both principal and interest and all payments hereunder shall be made to the named Payee or, in the event of a transfer pursuant to the Facility Agreement and this Note, to the transferee identified in the record of ownership of this Note maintained by the Affiliate of the Payee on behalf of the Maker. Transfer of this Note may not be effected except in accordance with the provisions hereof.

IN WITNESS WHEREOF, an authorized representative of the Maker has executed this Note as of the date first written above.

TITAN PHARMACEUTICALS, INC.

By: _____

Name:
Title:

EXHIBIT A-3

FORM OF NOTE

PROMISSORY NOTE

THIS NOTE IS BEING ISSUED WITH ORIGINAL ISSUE DISCOUNT ("OID"). THE FOLLOWING INFORMATION IS BEING PROVIDED PURSUANT TO TREASURY REGULATION SECTION 1.1275-3:

ISSUE PRICE:

AMOUNT OF OID:

ISSUE DATE:

YIELD TO MATURITY:

March __, 2011

FOR VALUE RECEIVED, TITAN PHARMACEUTICALS, INC., a Delaware corporation (the "Maker"), by means of this Promissory Note (this "Note"), hereby unconditionally promises to pay to Deerfield Special Situations Fund International Limited (the "Payee"), a principal amount equal to $2,440,000, in lawful money of the United States of America and in immediately available funds, on the dates provided in the Facility Agreement.

This Note is a "Note" referred to in the Facility Agreement dated as of March 15, 2011 among the Maker, the Payee and the other parties thereto (as modified and supplemented and in effect from time to time, the "Facility Agreement"), with respect to the Loan made by the Payee thereunder. Capitalized terms used herein and not expressly defined in this Note shall have the respective meanings assigned to them in the Facility Agreement.

This Note shall bear interest on the principal amount hereof pursuant to the provisions of the Facility Agreement.

The Maker shall make all payments to the Payee of interest and principal under this Note in the manner provided in and otherwise in accordance with the Facility Agreement. The outstanding principal amount of this Note shall be due and payable in full on the Maturity Date.

If default is made in the punctual payment of principal or any other amount under this Note in accordance with the Facility Agreement, or if any other Event of Default has occurred and is continuing, this Note shall, at the Payee's option exercised at any time upon or after the occurrence and during the continuance of any such payment default or other Event of Default and in accordance with the applicable provisions of the Facility Agreement, become immediately due and payable.

All payments of any kind due to the Payee from the Maker pursuant to this Note shall be made in the full face amount thereof. Subject to the terms of the Facility Agreement, all such payments will be free and clear of, and without deduction or withholding for, any present or future taxes. The Maker shall pay all and any costs (administrative or otherwise) imposed by the Maker's banks, clearing houses, or any other financial institution, in connection with making any payments hereunder.

The Maker shall pay all costs of collection, including, without limitation, all reasonable, documented legal expenses and attorneys' fees, paid or incurred by the Payee in collecting and enforcing this Note.

Other than those notices required to be provided by Payee to Maker under the terms of the Facility Agreement, the Maker and every endorser of this Note, or the obligations represented hereby, expressly waives presentment, protest, demand, notice of dishonor or default, and notice of any kind with respect to this Note and the Facility Agreement or the performance of the obligations under this Note and/or the Facility Agreement. No renewal or extension of this Note or the Facility Agreement, no release of any Person primarily or secondarily liable on this Note or the Facility Agreement, including the Maker and any endorser, no delay in the enforcement of payment of this Note or the Facility Agreement, and no delay or omission in exercising any right or power under this Note or the Facility Agreement shall affect the liability of the Maker or any endorser of this Note.

No delay or omission by the Payee in exercising any power or right hereunder shall impair such right or power or be construed to be a waiver of any default, nor shall any single or partial exercise of any power or right hereunder preclude the full exercise thereof or the exercise of any other power or right. The provisions of this Note may be waived or amended only in a writing signed by the Maker and the Payee. This Note may be prepaid in whole or in part in accordance with the provisions of the Facility Agreement.

This Note, and any rights of the PAYEE arising out of or relating to this Note, may, at the option of the Payee, be enforced by the Payee in the courts of the United States of America located in the Southern District of the State of New York or in any other courts having jurisdiction. For the benefit of the Payee, the Maker hereby irrevocably agrees that any legal action, suit or other proceeding arising out of or relating to this Note may be brought in the courts of the State of New York or of the United States of America for the Southern District of New York, and hereby consents that personal service of summons or other legal process may be made as set forth in Section 5.1 of the FACILITY Agreement, which service the Maker agrees shall be sufficient and valid. THE MAKER HEREBY waives any and all rights to demand a trial by jury in any action, suit or OTHER proceeding arising out of or relating to this NOTE or the transactions contemplated by this NOTE.

This Note shall be governed by, and construed in accordance with, the laws of the State of New York applicable to contracts made and to be performed in such State, without giving effect to the conflicts of laws principles thereof other than Sections 5-1401 and 5-1402 of the General Obligations Law of the State of New York.

Whenever this Note is held by a noteholder that is not a "United States person" within the meaning of Section 7701(a)(30) of the Internal Revenue Code of 1986, as amended (the "Code"), then it is the intention of the Maker and such noteholder that (x) all interest accrued and paid on this Note will qualify for exemption from United States withholding tax as "portfolio interest" because this Note is an obligation which is in "registered form" within the meaning of Sections 871(h)(2)(B) and 881(c)(2)(B) of the Code and the applicable Treasury Regulations promulgated thereunder, and (y) as such, all interest accrued and paid on this Note will be exempt from United States information reporting under Sections 6041 and 6049 of the Code and United States backup withholding under Section 3406 of the Code. The Maker and the Payee shall cooperate with one another, and execute and file such forms or other documents, or do or refrain from doing such other acts, as may be required, to secure such exemptions from United States withholding tax, information reporting, and backup withholding. In furtherance of the foregoing, any noteholder, transferee or assignee noteholder that is not a United States person shall represent, warrant and covenant to the Maker that (i) neither such noteholder nor, if any IRS Form W-8IMY is provided, any of such noteholder's members, partners, beneficiaries or owners is, or will be as long as any amounts due under this Note have not been paid in full, a person described in Section 871(h)(3) or 881(c)(3) of the Code; (ii) on or prior to the date of transfer or assignment (and on or prior to the date the form provided pursuant to this clause (ii) is no longer valid) until all amounts due under this Note have been paid in full, such noteholder shall provide the Maker with a properly completed and executed U.S. Internal Revenue Service ("IRS") Form W-8IMY or W-8BEN, as applicable (or any successor form prescribed by the IRS), certifying as to such noteholder's status for purposes of determining exemption from United States withholding tax, information reporting and backup withholding with respect to all payments to be made to such noteholder hereunder; (iii) if an event occurs that would require a change in the exempt status of such noteholder or any of the other information provided on the most recent IRS Form W-8IMY or W-8BEN (or successor form), as applicable, previously submitted by such noteholder to the Maker, such noteholder will so inform the Maker in writing (or by submitting to the Maker a new IRS Form W-8IMY or W-8BEN or successor form) within 30 days after the occurrence of such event; and (iv) such noteholder will not assign or otherwise transfer this Note or any of its rights hereunder except in accordance with the provisions hereof.

In order to qualify as a "registered note" for purposes of the Code, transfer of this Note may be effected only by (i) surrender of this Note to the Maker and the re-issuance of this Note to the transferee, or the Maker's issuance to the Payee of a new note in the same form as this Note but with the transferee denoted as the Payee, or (ii) the recording of the identity of the transferee by the Affiliate of the Payee that is maintaining a record ownership register of this Note as a non-fiduciary agent of, and on behalf of, the Maker for the tax purposes set forth herein. Such Affiliate in its capacity as such agent shall notify the Maker in writing immediately upon any change in such identity. The terms and conditions of this Note shall be binding upon and inure to the benefit of the Maker and the Payee and their permitted assigns; provided, however, that if any such assignment (whether by operation of law, by way of transfer or participation, or otherwise) is to any noteholder that is not a "United States person" within the meaning of Section 7701(a)(30) of the Code, then such noteholder shall submit to the Maker on or before the date of such assignment an IRS Form W-8IMY or W-8BEN (or any successor form), as applicable, certifying as to such noteholder's status for purposes of determining exemption from United States withholding tax, information reporting and backup withholding with respect to all payments to be made to such noteholder under the new note (or other

instrument). Any attempted transfer in violation of the relevant provisions of this Note shall be void and of no force and effect. Until there has been a valid transfer of this Note and of all of the rights hereunder by the Payee in accordance with this Note, the Maker shall deem and treat the Payee as the absolute beneficial owner and holder of this Note and of all of the rights hereunder for all purposes (including, without limitation, for the purpose of receiving all payments to be made under this Note).

It is the intention of the Maker and the Payee that this Note is to be a registered instrument and not a bearer instrument and the provisions of this Note are to be interpreted accordingly. This Note is intended to be registered as to both principal and interest and all payments hereunder shall be made to the named Payee or, in the event of a transfer pursuant to the Facility Agreement and this Note, to the transferee identified in the record of ownership of this Note maintained by the Affiliate of the Payee on behalf of the Maker. Transfer of this Note may not be effected except in accordance with the provisions hereof.

IN WITNESS WHEREOF, an authorized representative of the Maker has executed this Note as of the date first written above.

TITAN PHARMACEUTICALS, INC.

By: _____

Name:
Title:

EXHIBIT A-4

FORM OF NOTE

PROMISSORY NOTE

THIS NOTE IS BEING ISSUED WITH ORIGINAL ISSUE DISCOUNT ("OID"). THE FOLLOWING INFORMATION IS BEING PROVIDED PURSUANT TO TREASURY REGULATION SECTION 1.1275-3:

ISSUE PRICE:

AMOUNT OF OID:

ISSUE DATE:

YIELD TO MATURITY:

March __, 2011

FOR VALUE RECEIVED, TITAN PHARMACEUTICALS, INC., a Delaware corporation (the "Maker"), by means of this Promissory Note (this "Note"), hereby unconditionally promises to pay to Deerfield Special Situations Fund, L.P. (the "Payee"), a principal amount equal to $1,560,000, in lawful money of the United States of America and in immediately available funds, on the dates provided in the Facility Agreement.

This Note is a "Note" referred to in the Facility Agreement dated as of March 15, 2011 among the Maker, the Payee and the other parties thereto (as modified and supplemented and in effect from time to time, the "Facility Agreement"), with respect to the Loan made by the Payee thereunder. Capitalized terms used herein and not expressly defined in this Note shall have the respective meanings assigned to them in the Facility Agreement.

This Note shall bear interest on the principal amount hereof pursuant to the provisions of the Facility Agreement.

The Maker shall make all payments to the Payee of interest and principal under this Note in the manner provided in and otherwise in accordance with the Facility Agreement. The outstanding principal amount of this Note shall be due and payable in full on the Maturity Date.

If default is made in the punctual payment of principal or any other amount under this Note in accordance with the Facility Agreement, or if any other Event of Default has occurred and is continuing, this Note shall, at the Payee's option exercised at any time upon or after the occurrence and during the continuance of any such payment default or other Event of Default and in accordance with the applicable provisions of the Facility Agreement, become immediately due and payable.

All payments of any kind due to the Payee from the Maker pursuant to this Note shall be made in the full face amount thereof. Subject to the terms of the Facility Agreement, all such payments will be free and clear of, and without deduction or withholding for, any present or future taxes. The Maker shall pay all and any costs (administrative or otherwise) imposed by the Maker's banks, clearing houses, or any other financial institution, in connection with making any payments hereunder.

The Maker shall pay all costs of collection, including, without limitation, all reasonable, documented legal expenses and attorneys' fees, paid or incurred by the Payee in collecting and enforcing this Note.

Other than those notices required to be provided by Payee to Maker under the terms of the Facility Agreement, the Maker and every endorser of this Note, or the obligations represented hereby, expressly waives presentment, protest, demand, notice of dishonor or default, and notice of any kind with respect to this Note and the Facility Agreement or the performance of the obligations under this Note and/or the Facility Agreement. No renewal or extension of this Note or the Facility Agreement, no release of any Person primarily or secondarily liable on this Note or the Facility Agreement, including the Maker and any endorser, no delay in the enforcement of payment of this Note or the Facility Agreement, and no delay or omission in exercising any right or power under this Note or the Facility Agreement shall affect the liability of the Maker or any endorser of this Note.

No delay or omission by the Payee in exercising any power or right hereunder shall impair such right or power or be construed to be a waiver of any default, nor shall any single or partial exercise of any power or right hereunder preclude the full exercise thereof or the exercise of any other power or right. The provisions of this Note may be waived or amended only in a writing signed by the Maker and the Payee. This Note may be prepaid in whole or in part in accordance with the provisions of the Facility Agreement.

This Note, and any rights of the PAYEE arising out of or relating to this Note, may, at the option of the Payee, be enforced by the Payee in the courts of the United States of America located in the Southern District of the State of New York or in any other courts having jurisdiction. For the benefit of the Payee, the Maker hereby irrevocably agrees that any legal action, suit or other proceeding arising out of or relating to this Note may be brought in the courts of the State of New York or of the United States of America for the Southern District of New York, and hereby consents that personal service of summons or other legal process may be made as set forth in Section 5.1 of the FACILITY Agreement, which service the Maker agrees shall be sufficient and valid. THE MAKER HEREBY waives any and all rights to demand a trial by jury in any action, suit or OTHER proceeding arising out of or relating to this NOTE or the transactions contemplated by this NOTE.

This Note shall be governed by, and construed in accordance with, the laws of the State of New York applicable to contracts made and to be performed in such State, without giving effect to the conflicts of laws principles thereof other than Sections 5-1401 and 5-1402 of the General Obligations Law of the State of New York.

Whenever this Note is held by a noteholder that is not a "United States person" within the meaning of Section 7701(a)(30) of the Internal Revenue Code of 1986, as amended (the "Code"), then it is the intention of the Maker and such noteholder that (x) all interest accrued and paid on this Note will qualify for exemption from United States withholding tax as "portfolio interest" because this Note is an obligation which is in "registered form" within the meaning of Sections 871(h)(2)(B) and 881(c)(2)(B) of the Code and the applicable Treasury Regulations promulgated thereunder, and (y) as such, all interest accrued and paid on this Note will be exempt from United States information reporting under Sections 6041 and 6049 of the Code and United States backup withholding under Section 3406 of the Code. The Maker and the Payee shall cooperate with one another, and execute and file such forms or other documents, or do or refrain from doing such other acts, as may be required, to secure such exemptions from United States withholding tax, information reporting, and backup withholding. In furtherance of the foregoing, any noteholder, transferee or assignee noteholder that is not a United States person shall represent, warrant and covenant to the Maker that (i) neither such noteholder nor, if any IRS Form W-8IMY is provided, any of such noteholder's members, partners, beneficiaries or owners is, or will be as long as any amounts due under this Note have not been paid in full, a person described in Section 871(h)(3) or 881(c)(3) of the Code; (ii) on or prior to the date of transfer or assignment (and on or prior to the date the form provided pursuant to this clause (ii) is no longer valid) until all amounts due under this Note have been paid in full, such noteholder shall provide the Maker with a properly completed and executed U.S. Internal Revenue Service ("IRS") Form W-8IMY or W-8BEN, as applicable (or any successor form prescribed by the IRS), certifying as to such noteholder's status for purposes of determining exemption from United States withholding tax, information reporting and backup withholding with respect to all payments to be made to such noteholder hereunder; (iii) if an event occurs that would require a change in the exempt status of such noteholder or any of the other information provided on the most recent IRS Form W-8IMY or W-8BEN (or successor form), as applicable, previously submitted by such noteholder to the Maker, such noteholder will so inform the Maker in writing (or by submitting to the Maker a new IRS Form W-8IMY or W-8BEN or successor form) within 30 days after the occurrence of such event; and (iv) such noteholder will not assign or otherwise transfer this Note or any of its rights hereunder except in accordance with the provisions hereof.

In order to qualify as a "registered note" for purposes of the Code, transfer of this Note may be effected only by (i) surrender of this Note to the Maker and the re-issuance of this Note to the transferee, or the Maker's issuance to the Payee of a new note in the same form as this Note but with the transferee denoted as the Payee, or (ii) the recording of the identity of the transferee by the Affiliate of the Payee that is maintaining a record ownership register of this Note as a non-fiduciary agent of, and on behalf of, the Maker for the tax purposes set forth herein. Such Affiliate in its capacity as such agent shall notify the Maker in writing immediately upon any change in such identity. The terms and conditions of this Note shall be binding upon and inure to the benefit of the Maker and the Payee and their permitted assigns; provided, however, that if any such assignment (whether by operation of law, by way of transfer or participation, or otherwise) is to any noteholder that is not a "United States person" within the meaning of Section 7701(a)(30) of the Code, then such noteholder shall submit to the Maker on or before the date of such assignment an IRS Form W-8IMY or W-8BEN (or any successor form), as applicable, certifying as to such noteholder's status for purposes of determining exemption from United States withholding tax, information reporting and backup withholding with respect to all payments to be made to such noteholder under the new note (or other

instrument). Any attempted transfer in violation of the relevant provisions of this Note shall be void and of no force and effect. Until there has been a valid transfer of this Note and of all of the rights hereunder by the Payee in accordance with this Note, the Maker shall deem and treat the Payee as the absolute beneficial owner and holder of this Note and of all of the rights hereunder for all purposes (including, without limitation, for the purpose of receiving all payments to be made under this Note).

It is the intention of the Maker and the Payee that this Note is to be a registered instrument and not a bearer instrument and the provisions of this Note are to be interpreted accordingly. This Note is intended to be registered as to both principal and interest and all payments hereunder shall be made to the named Payee or, in the event of a transfer pursuant to the Facility Agreement and this Note, to the transferee identified in the record of ownership of this Note maintained by the Affiliate of the Payee on behalf of the Maker. Transfer of this Note may not be effected except in accordance with the provisions hereof.

IN WITNESS WHEREOF, an authorized representative of the Maker has executed this Note as of the date first written above.

TITAN PHARMACEUTICALS, INC.

By: _____

Name:
Title:

EXHIBIT A-5

FORM OF WARRANT

EXHIBIT B

PERMITTED INDEBTENDESS

Indebtedness to Oxford Financial Corporation which shall be paid in full with a portion of the proceeds of the Loan.

Exhibit 10.2

SECURITY AGREEMENT

Security Agreement (this "**Agreement**"), dated as of March 15, 2011, between Titan Pharmaceuticals, Inc ("**Obligor**") in favor of Deerfield Private Design Fund II, L.P., Deerfield Private Design International II LP., Deerfield Special Situations Fund, L.P. and Deerfield Special Situations Fund International Limited (together, the "**Secured Party**").

W I T N E S S E T H:

WHEREAS, Obligor has entered into a Facility Agreement, dated as of the date hereof (the "**Facility Agreement**"), with the Secured Party;

NOW, THEREFORE, in consideration of the mutual agreements set forth herein, Obligor and the Secured Party agree as follows:

1. Grant of Security Interest.

(a) To secure payment and performance of the Obligations (as hereafter defined), Obligor hereby grants to Secured Party a security interest in all property and interests in property of Obligor, whether now owned or hereafter acquired or existing, and wherever located (together with all other collateral security for the Obligations at any time granted to or held or acquired by Secured Party, collectively, the "**Collateral**"), including, without limitation, the following:

(i) all Accounts;

(ii) all Receivables;

(iii) all Equipment;

(iv) all General Intangibles;

(v) all Inventory;

(vi) all Investment Property ; and

(vii) all proceeds and products of (i), (ii), (iii), (iv) (v) and (vi).

Notwithstanding the foregoing, the term "Collateral" shall expressly exclude any interest of the Borrower in Probuphine which has been licensed, transferred, assigned, sold and/or contributed by the Borrower to any Person (other than an Affiliate) at any time.

(b) Perfection of Security Interests.

(i) Obligor authorizes Secured Party (or its agent) to file at any time and from time to time such financing statements with respect to the Collateral naming Secured Party or its designee as the secured party and Obligor as debtor, as Secured Party may require, and including any other information with respect to Obligor or otherwise required by part 5 of

Article 9 of the UCC of such jurisdictions as Secured Party may determine, together with any amendment and continuations with respect thereto, which authorization shall apply to all financing statements filed on or after the date hereof. Except as otherwise permitted by Section 9-509(d)(2) of the UCC, in no event shall Obligor at any time file, or permit or cause to be filed, any correction statement or termination statement with respect to any financing statement (or amendment or continuation with respect thereto) naming Secured Party or its designee as secured party and Obligor or any affiliate of Obligor as debtor without the prior written consent of Secured Party.

(ii) Obligor shall take any other actions reasonably requested by Secured Party from time to time to cause the attachment and perfection of, and the ability of Secured Party to enforce, the security interest of Secured Party in the Collateral.

2. Covenants. Obligor covenants that:

(a) it shall at all times: (i) be the sole owner of each and every item of Collateral and (ii) defend the Collateral against the claims and demands of all persons except for Permitted Liens as defined in the Facility Agreement;

(b) it will comply with the requirements of all agreements relating to premises where any Collateral is located except where the necessity of compliance therewith is contested in good faith by appropriate proceedings or where the failure to so comply, individually or in the aggregate, would not reasonably be expected to have a Material Adverse Effect;

(c) it will give Secured Party at least twenty (20) days' prior written notice of any change to its legal name;

(d) it will give Secured Party at least twenty (20) days' prior written notice of any change to its chief executive office or its mailing address; and

(e) it will give Secured Party twenty (20) days' prior written notice of any change to its type of organization, jurisdiction of organization or other legal structure.

(f) in the event Obligor exercises the election described in Section 2.2(b) of the Facility Agreement, it shall direct the applicable payors under all agreements that generate Prepayment Revenue (as defined in the Facility Agreement) to remit 75% of such Prepayment Revenue to a collection account structured in a manner reasonably satisfactory to Secured Party which will be swept monthly to Secured Party and the proceeds thereof applied by Secured Party to repay the Loan pursuant to such Section.

3. Remedies.

(a) Upon the occurrence and during the continuance of an Event of Default (as defined in the Facility Agreement), (i) Secured Party shall have the right to exercise any right and remedy provided for herein, under the UCC and at law or equity generally, including, without limitation, the right to foreclose the security interests granted herein and to realize upon any Collateral by any available judicial procedure and/or to take possession of and sell any or all of the Collateral with or without judicial process; and (ii) with or without having the Collateral at

the time or place of sale, Secured Party may sell the Collateral, or any part thereof, at public or private sale, at any time or place, in one or more sales, at such price or prices, and upon such terms, either for cash, credit or future delivery, as Secured Party may elect in compliance with the UCC.

4. Representations and Warranties. Obligor hereby represents and warrants to Secured Party that:

(a) (i) Obligor is a corporation duly organized and validly existing under the laws of Delaware.

(ii) the exact legal name of Obligor is as set forth on the signature page of this Agreement. Obligor has not, during the past five years, been known by or used any other composite or fictitious name or been a party to any merger or consolidation, or acquired all or substantially all of the assets of any Person, or acquired any of its properties or assets out of the ordinary course of business.

(iii) the chief executive office and mailing address of Obligor are located only at the address identified as such on Schedule 4(a)(iii) and its only other places of business and the only other locations of Collateral, (other than Collateral in transit or out for repair), if any, are at the addresses set forth on Schedule 4(a)(iii).

5. Expenses of Obligor's Duties; Secured Party's Right to Perform on Obligor's Behalf.

(a) Obligor's agreements hereunder shall be performed by it at its sole cost and expense.

(b) If Obligor shall fail to do any act which it has covenanted to do hereunder which such failure is not cured within thirty (30) days following notice of such failure by Secured Party to Obligor, Secured Party may (but shall not be obligated to) do the same or cause it to be done, either in its name or in the name and on behalf of Obligor, and Obligor hereby irrevocably authorizes Secured Party so to act.

6. No Waivers of Rights hereunder; Rights Cumulative.

(a) No delay by Secured Party in exercising any right hereunder, or in enforcing any of the Obligations, shall operate as a waiver thereof, nor shall any single or partial exercise of any right preclude other or further exercises thereof or the exercise of any other right. No waiver of any of the Obligations shall be enforceable against Secured Party unless in writing and signed by an officer of Secured Party, and unless it expressly refers to the provision affected; any such waiver shall be limited solely to the specific event waived.

(b) All rights granted Secured Party hereunder shall be cumulative and shall be supplementary of and in addition to those granted or available to Secured Party under any other agreement with respect to the Obligations or under applicable law and nothing herein shall be construed as limiting any such other right.

7. Termination and Release.

(a) This Agreement shall continue in full force and effect until all Obligations (other than contingent indemnification obligations) shall have been paid and satisfied in full. Upon the payment in full of all Obligations (other than contingent indemnification obligations) and the termination or expiration of the Secured Party's obligation to make Loans under the Facility Agreement, the security interest granted hereby shall terminate automatically and all rights to the Collateral shall automatically revert to the Obligor. Upon any such termination, the Secured Party shall, at the Obligor's expense, promptly execute and deliver to the Obligor all releases and other documents as the Obligor shall reasonably request to evidence such termination and shall take such other action reasonably necessary for the release of the Liens created hereby on the Collateral. For purposes of this Section 7(a), the term "Obligations" shall expressly exclude any obligations and/or liabilities of the Obligor to the Secured Party under the Royalty Agreement dated as of the date hereof by and between the Obligor and the Secured Party (the "Royalty Agreement") and under the Warrants. Accordingly, and for the avoidance of doubt, this Agreement and the related Lien of Secured Party in the Collateral shall terminate simultaneously with payment in full of all obligations and liabilities of the Obligor to the Secured Party under the Notes, notwithstanding that any obligations and/or liabilities of the Obligor to the Secured Party shall continue to exist under the Royalty Agreement and/or the Warrants.

(b) If any Collateral shall be sold, transferred or otherwise disposed of by the Obligor in a transaction permitted by the Facility Agreement, then the Secured Party, at the request and sole expense of the Obligor, shall promptly execute and deliver to the Obligor all releases and other documents, and take such other action, reasonably necessary for the release of the Liens created hereby on such Collateral.

8. Governing Law; Jurisdiction; Certain Waivers.

(a) This Agreement shall be governed by and construed in accordance with the laws of the State of New York applied to contracts to be performed wholly within such State. Any judicial proceeding brought by or against Obligor with respect to any of the Obligations or this Agreement may be brought in any court of competent jurisdiction in such State, and, by execution and delivery of this Agreement, Obligor accepts for itself and in connection with its properties, generally and unconditionally, the non-exclusive jurisdiction of such court and irrevocably agrees to be bound by any judgment rendered thereby in connection with this Agreement. Obligor hereby waives personal service of any and all process upon it and consents that all such service of process may be made by certified or registered mail (return receipt requested) directed to Obligor at its address set forth in Section 10, and service so made shall be deemed completed five (5) days after the same shall have been so deposited in the mails of the United States of America. Nothing herein shall affect the right to serve process in any manner permitted by law or shall limit the right of Secured Party to bring proceedings against Obligor in the courts of any other jurisdiction. Obligor waives any objection to jurisdiction and venue of any action instituted hereunder and shall not assert any defense based on lack of jurisdiction or venue or based upon forum non conveniens. Any judicial proceeding by Obligor against Secured Party involving, directly or indirectly, any matter or claim in any way arising out of,

related to or connected with this Agreement or any related agreement, shall be brought only in a federal or state court located in The City of New York, State of New York.

(b) EACH PARTY TO THIS AGREEMENT HEREBY EXPRESSLY WAIVES ANY RIGHT TO TRIAL BY JURY OF ANY CAUSE OF ACTION ARISING UNDER THIS AGREEMENT OR ANY OTHER AGREEMENT DELIVERED IN CONNECTION HEREWITH, OR THE TRANSACTIONS RELATED HERETO OR THERETO IN EACH CASE WHETHER NOW EXISTING OR HEREAFTER ARISING, AND WHETHER SOUNDING IN CONTRACT OR TORT OR OTHERWISE, AND EACH PARTY HEREBY CONSENTS THAT ANY SUCH CAUSE OF ACTION SHALL BE DECIDED BY A COURT TRIAL WITHOUT A JURY, AND THAT ANY PARTY TO THIS AGREEMENT MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS SECTION WITH ANY COURT AS WRITTEN EVIDENCE OF THE CONSENTS OF THE PARTIES HERETO TO THE WAIVER OF THEIR RIGHT TO TRIAL BY JURY.

9. Additional Definitions. As used herein:

(a) All terms used herein which are defined in Article 1 or Article 9 of the UCC shall have the meanings given therein unless otherwise defined in this Agreement. All references to the plural herein shall also mean the singular and to the singular shall also mean the plural unless the context otherwise requires. All references to Obligor and Secured Party pursuant to the definitions set forth in the recitals hereto, or to any other person herein, shall include their respective successors and assigns. The words “hereof”, “herein”, “hereunder”, “this Agreement” and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not any particular provision of this Agreement and as this Agreement now exists or may hereafter be amended, modified, supplemented, extended, renewed, restated or replaced. The word “including” when used in this Agreement shall mean “including, without limitation”.

“**Obligations**” means:

(1) the full and prompt payment by Obligor when due of all obligations and liabilities to Secured Party, whether now existing or hereafter arising, under the Financing Documents and the due performance and compliance by Obligor with the terms thereof;

(2) any and all sums advanced in accordance with the terms of the Financing Documents or applicable law by Secured Party in order to preserve the Collateral or to preserve the Secured Party’s security interest in the Collateral; and

(3) in the event of any proceeding for the collection or enforcement of any obligations or liabilities of Obligor referred to in the immediately preceding clauses (1) and (2) the reasonable expenses of re-taking, holding, preparing for sale, selling or otherwise disposing of or realizing on the Collateral, or of any other exercise by Secured Party of its rights hereunder, together with reasonable and documented attorneys’ fees and court costs.

"**Person**" or "**person**" shall mean any individual, sole proprietorship, partnership, corporation limited liability company, limited liability partnership, business trust, unincorporated association, joint stock corporation, trust, joint venture or other entity or any government or any agency or instrumentality or political subdivision thereof.

"**UCC**" shall mean the Uniform Commercial Code as in effect in the State of New York and any successor statute, as in effect from time to time (except that terms used herein which are defined in the Uniform Commercial Code as in effect in the State of New York on the date hereof shall continue to have the same meaning notwithstanding any replacement or amendment of such statute except as Secured Party may otherwise determine) or, when the context implies, the Uniform Commercial Code as in effect from time to time in any other applicable jurisdiction.

The words "it" or "its" as used herein shall be deemed to refer to individuals and to business entities.

10. Notices. Any communication required or permitted pursuant to this Agreement shall be deemed given (a) when personally delivered to any officer of the party to whom it is addressed, (b) on the earlier of actual receipt thereof or five (5) days following posting thereof by certified or registered mail, postage prepaid, return receipt requested, or (c) upon actual receipt thereof when sent by a recognized overnight delivery service, or (d) upon actual receipt thereof when sent by telecopier to the number set forth below with telephone communication confirming receipt and subsequently confirmed by registered or certified mail, return receipt requested, or by recognized overnight delivery service to the address set forth below, in each case addressed to the applicable party at its address set forth below or at such other address as has been furnished in writing by such party to the other by like notice:

(A) If to Obligor:

400 Oyster Point Road
Suite 506
South San Francisco, CA 94080
Attention: Chief Executive Office
Telecopier: (650) 244-4956

With a copy to:

Loeb & Loeb LLP
345 Park Avenue
New York, NY 10154
Attention: Fran Stoller
Facsimile: (212) 214-0706

(B) If to Secured Party:

Deerfield Private Design Fund II, L.P.
780 Third Avenue, 37th Floor
New York, New York 10017

Attention: Structured Products
Facsimile: (212) 599-3075

With a copy to:

Katten Muchin Rosenman LLP
575 Madison Avenue
New York, New York 10022-2585
Attention: Mark I. Fisher
Facsimile: (212) 940-6621

Any requirement under applicable law of reasonable notice by Secured Party to Obligor of any event shall be met if notice is given to Obligor in the manner prescribed above at least five (5) days before (a) the date of such event or (b) the date after which such event will occur.

11. General.

(a) This Agreement shall be binding upon the assigns or successors of Obligor and shall inure to the benefit of and be enforceable by Secured Party and its successors, permitted transferees and permitted assigns.

(b) Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof in that jurisdiction or affecting the validity or enforceability of such provision in any other jurisdiction.

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Dated in New York, New York as of the date first above written.

OBLIGOR:

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle
Name: Sunil Bhonsle
Title: President

SECURED PARTY:

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD PRIVATE DESIGN INTERNATIONAL II, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND INTERNATIONAL LIMITED

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

SCHEDULE 4(a)(iii)

TO

SECURITY AGREEMENT

Chief Executive Office and Mailing Address of Obligor:

400 Oyster Point Blvd.
Suite 505
South San Francisco, CA 94080

Other Collateral Locations:

None

Exhibit 10.3

ROYALTY AGREEMENT

This ROYALTY AGREEMENT (this "Agreement"), dated March 15, 2011, is made by and between **Deerfield Private Design Fund II, L.P.**, a Delaware limited partnership ("Design Fund II"), **Deerfield Special Situations Fund, L.P.**, a Delaware limited partnership ("DSS"), **Deerfield TTNP Corporation**, a Delaware corporation ("DTTNP" and together with Design Fund II and DSS, "Deerfield") and **Titan Pharmaceuticals, Inc.**, a Delaware corporation ("Titan").

Background Statement

Whereas, pursuant to the Worldwide License Agreement between Hoechst Marion Roussel, Inc. ("Sanofi") and Titan, having an effective date of December 31, 1996, as amended by one amendment dated April 26, 2004 (as amended, the "Sanofi License"), Titan is the exclusive worldwide licensee of certain intellectual property relating to the pharmaceutical compound Iloperidone;

Whereas, pursuant to the Sublicense Agreement between Titan and Novartis Pharma A.G. ("Novartis"), having an effective date of November 20, 1997, as amended by three amendments dated November 30, 1998, April 10, 2001, and June 4, 2004 (as amended, the "Novartis Sublicense"), Novartis is the exclusive sublicensee of certain of Titan's rights and obligations under the Sanofi License;

Whereas, pursuant to the Amended and Restated Sublicense Agreement between Novartis and Vanda Pharmaceuticals Inc. ("Vanda"), having an effective date of October 12, 2009 (the "Vanda Sublicence"), Vanda and Novartis have entered into an agreement with respect to the sublicense of certain of Novartis' rights under the Novartis Sublicense, as well as certain other rights of each of Vanda and Novartis, as described more fully in the Vanda Sublicense; and

Whereas, in consideration of a one-time payment of $3,000,000 made by Deerfield to Titan on the Effective Date, Deerfield is acquiring the right to receive certain payments as set forth herein;

Now, therefore, in consideration of the covenants and obligations expressed herein, and intending to be legally bound, Deerfield and Titan agree as follows:

Statement of Agreement

1. Definitions. Capitalized terms shall have the meaning set forth in this section. Unless the context requires otherwise, words in the singular include the plural, words in the plural include the singular, and words importing any gender shall be applicable to all genders. If a term is defined as one part of speech (such as a noun), it shall have a corresponding meaning when used as another part of speech (such as a verb).

(a) "Affiliate" means with respect to any Person, each other Person that directly or indirectly, through one or more intermediaries, owns or controls, is controlled by or is under common control with, such Person. For the purpose of this Agreement, "control" means the

possession, directly or indirectly, of the power to direct or cause the direction of management and policies, whether through the ownership of voting securities, by contract or otherwise.

(b) "Agreement" has the meaning set forth in the introductory paragraph.

(c) "Business Day" means any day other than Saturday, Sunday or a day on which banks in the City of New York are authorized or required to be closed.

(d) "Compound" has the meaning given such term in the Sanofi License as of the date hereof.

(e) "DTTNP" has the meaning set forth in the introductory paragraph.

(f) "Deerfield" has the meaning set forth in the introductory paragraph.

(g) "Design Fund II" has the meaning set forth in the introductory paragraph.

(h) "DSS" has the meaning set forth in the introductory paragraph.

(i) "Earnings Report" means, during any period when Titan is obligated to file reports under the provisions of the Securities Exchange Act of 1934, the Form 10-Q filed by Titan following each of the first three Quarters of its fiscal year and the Form 10-K filed by Titan following the fourth Quarter of its fiscal year, as long as such reports are timely filed. If such reports are not timely filed, then the "Earnings Report" means the press release, Form 8-K or other form of public communication issued by Titan whereby it reports revenue for such period.

(j) "Effective Date" has the meaning set forth in **Section 3**.

(k) "Facility Agreement" means that Facility Agreement, dated as of the date hereof, between Design Fund II, DSS, Deerfield Special Situations Fund International, Limited, Deerfield Private Design Fund International II, L.P. and Titan, as amended, supplemented and replaced from time to time.

(l) "Fanapt Intellectual Property" means (i) all inventions, patents, patent applications, trade secrets, know-how, technical data, laboratory results, clinical results, manufacturing methods, copyrights, trademarks and other data, know-how and intellectual property owned, licensed or controlled by Titan, whenever acquired, that are necessary to develop, manufacture, have manufactured, use, promote, distribute, import, sell and offer for sale any Fanapt Product and (ii) any "Patents" or "Know-How" not otherwise included in subsection (i) of this definition.

(m) "Fanapt Products" means all products, including any bulk or finished pharmaceutical composition containing the Compound, whether as a sole active ingredient or in combination with another active ingredient, and in any formulation, such as would constitute a "Product," "Depot Product," or "Compound," under any definition of such terms in any License Agreement as of the date hereof and as of any future date, or that practices any valid claim under any unexpired Patent or incorporates any Know-How.

(n) "Fanapt Regulatory Rights" means any licenses, permits, approvals, codes, certifications and other authorizations or identifiers granted or required by any Governmental Authority required to manufacture, have manufactured, use, promote, distribute, import, sell and offer for sale any Fanapt Product.

(o) "Fanapt Rights" means any right, title or interest of Titan or its Affiliates in and to any Fanapt Intellectual Property, Fanapt Products or Fanapt Regulatory Rights, including, without limitation, as acquired or held by Titan pursuant to any of the License Agreements.

(p) "Governmental Authority" means any nation or government, any state or other political subdivision thereof, any municipal, local, city or county government, and any entity exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to government.

(q) "Know-How" means everything that would constitute Know-How as such term is defined in any of the License Agreements.

(r) "Legal Requirement" means any statute, law, treaty, rule, regulation, guidance, approval, order, decree, writ, injunction or determination of any Governmental Authority, court or arbitrator of competent jurisdiction; and, with respect to any Person, includes all such Legal Requirements applicable or binding upon such Person, its business or the ownership or use of any of its assets.

(s) "Lien" means any reservations of title, mortgage, claim, lien, security interest, pledge, hypothecation, escrow, charge, option or other restriction or encumbrance of any kind.

(t) "License Agreements" means the Sanofi License, the Novartis Sublicense and the Vanda Sublicense, in each case as such agreement may be amended or restated from time to time

(u) "Net Sales" shall be calculated in the manner described in the definition of Net Sales set forth in the Novartis Sublicense; provided, however, that Net Sales shall include, in addition to sales of Products (as defined in the Novartis Sublicense) by Novartis, all sales of Fanapt Products by Titan or any its Affiliates and all sales by any direct or indirect assignee or licensee of Titan or any of its Affiliates; provided further, however, that Net Sales shall not include (i) sales of Products in the ROW Territory by Vanda, its Affiliates, assignees or licensees pursuant to the Vanda Sublicense and (ii) sales of Fanapt Products by Persons other than Titan, Novartis or their Affiliates from which Titan receives, after the date hereof, no economic benefit. For purposes of the preceding sentence, Titan shall be deemed to receive an economic benefit from the sale of Fanapt Products if (i) such sale is made pursuant to any assignment, license or sublicense of any Fanapt Rights by Titan or any of its Affiliates, and (ii) Titan or any of its Affiliates receives, after the date hereof, any consideration for such sale or from any such assignment, license or sublicense of Fanapt Rights.

(v) "Novartis" has the meaning set forth in the Background Statement.

(w) "Novartis Sublicense" has the meaning set forth in the Background Statement.

(x) "Party" means either Titan or Deerfield, and "Parties" means both Titan and Deerfield.

(y) "Patents" means everything that would constitute Patents as such term is defined in any of the License Agreements.

(z) "Person" means any natural person, corporation, limited liability company, partnership, association, trust, organization, Governmental Authority or other legal entity.

(aa) "Purchase Price" has the meaning set forth in **Section 3**.

(bb) "Quarter" means a fiscal quarter of Titan.

(cc) "ROW Territory" has the meaning set forth in the Vanda Sublicense.

(dd) "Royalty" has the meaning set forth in **Section 2(a)**.

(ee) "Royalty Term" means the period beginning on the Effective Date and ending December 31, 2019.

(ff) "Sanofi" has the meaning set forth in the Background Statement.

(gg) "Sanofi License" has the meaning set forth in the Background Statement.

(hh) "Territory" means the world.

(ii) "Titan" has the meaning set forth in the introductory paragraph.

(jj) "Transfer" means any sale (or any transaction having the effect of a sale), assignment, conveyance of rights, deed of trust, Lien, license, sublicense, seizure or other transfer of any sort and to any degree, voluntary or involuntary, including by operation of law.

(kk) "Vanda" has the meaning set forth in the Background Statement.

(ll) "Vanda Sublicense" has the meaning set forth in the Background Statement.

2. Royalty.

(a) Royalty Amount. In consideration of the payment of the Purchase Price by Deerfield, Titan shall pay to Deerfield a royalty (the "Royalty") equal to 2.5% of Net Sales occurring during the Royalty Term.

(b) Payment of the Royalty. No later than two Business Days following the later of (i) the date Titan files its Earnings Report for each Quarter of its fiscal year (but in no event later than sixty days following the last day of each of the first three Quarters and one hundred twenty days following the fourth Quarter of each fiscal year) and (ii) the date of receipt by Titan in immediately available funds of its royalty payment from Novartis for the applicable Quarter, Titan shall pay to Deerfield the Royalty for such Quarter. On the same day it makes a Royalty payment pursuant to this **Section 2(b)**, Titan shall deliver to Deerfield a written statement

showing all Net Sales during such Quarter and Titan's computation of the Royalty for such Quarter. All Royalty payments shall be made by wire transfer of immediately available funds to the account previously designated in writing to Titan by Deerfield for each of Design Fund II, DSS and DTTNP, allocated pursuant to **Section 2(c)**, or such new or additional account(s) as Deerfield shall designate in writing to Titan at least five Business Days prior to the date such Royalty payment shall be due. Titan may withhold from any payment of Royalty withholding taxes that it is required to withhold that are levied upon the Royalty by the United States or any state thereof, provided that Titan shall deliver to Deerfield copies of the filed tax return reporting such payments and official receipts (or such other evidence of payment reasonably acceptable to Deerfield) evidencing that such payments were in fact received by the applicable Governmental Authority.

(c) Allocation between Design Fund II, DSS and DTTNP. Unless otherwise agreed by all Parties, each payment of the Royalty shall be allocated and paid 37.28% to Design Fund II, 7.8% to DSS and 54.92 % to DTTNP, in each case rounded to the nearest cent ($0.01).

(d) Royalty Payments Following Termination. The termination of this Agreement, including termination due to the expiration of the Royalty Term, shall not terminate the obligation of Titan, or its Affiliates, licensees or assignees, to pay any Royalty accrued prior to termination. Upon termination of this Agreement, Deerfield shall have the right to retain any Royalty already paid by Titan under this Agreement.

(e) Delinquent Royalty Payments. Any Royalty not paid when due shall bear interest at a rate equal to the lower of (i) the highest rate permitted by applicable law, and (ii) one and one-half percent (1.5%) per month, compounded monthly.

(f) Audit Right. Upon not less than fourteen days' written notice, Deerfield shall have the right to audit the books and records of Titan relating to sales or other transactions included in the definition of Net Sales for the purposes of determining the correctness of Titan's computation and payment of the Royalty. Such audit may not be conducted more than once in any calendar year and shall be conducted during normal business hours by a national public accounting firm selected by Deerfield at its cost and reasonably acceptable to Titan, provided that such accounting firm enters into a reasonable confidentiality agreement prior to commencing any such audit. Titan shall provide such accounting firm with access to all pertinent books and records and shall reasonably cooperate with such accounting firm's efforts to conduct such audits. If there has been an underpayment of the aggregate Royalty due for the period being audited of more than $25,000, Titan shall reimburse Deerfield for the reasonable out-of-pocket costs (including accountants' fees) incurred by Deerfield in connection with such audit. In the event Deerfield claims that any such audit reveals an underpayment of the Royalty, Deerfield will make the audit papers for the relevant period available to Titan.

3. Purchase Price. As consideration for Titan's payment of the Royalty, Deerfield shall pay to Titan a one-time purchase price of $3,000,000 (the "Purchase Price"), which amount shall be paid in immediately available funds to an account specified by Titan on or before the date that is fifteen Business Days following the date hereof (such date, the "Effective Date").

4. Covenants of Titan.

(a) Net Sales Records. Titan shall keep, or obtain from its sublicensees, complete, true and accurate books and records of all Net Sales of Fanapt Products. Titan shall, as determined in its good faith business judgment or as reasonably requested by Deerfield, enforce its audit and inspection rights under all of the License Agreements and any other agreement relating to Fanapt Products to which it is a party or a third-party beneficiary, and shall take all other commercially reasonable steps, in order to compile and maintain such books and records of Net Sales and to ensure such books and records are reasonably capable of being audited upon Deerfield's exercise of its rights pursuant to **Section 2(f)**. Titan shall keep such books and records of Net Sales, or cause them to be retained and available for purposes of this Agreement, for at least two (2) years following the Quarter to which they pertain.

(b) Maintenance of Fanapt Rights. Titan shall not take any action, or fail to take any action or enforce any right, that is intended to, or would have the effect of, reducing Net Sales.

(c) Maintenance of Rights Under License Agreements. Without the prior written consent of Deerfield, Titan shall not take any action that would, or fail to take any action if such failure would, (i) modify, relinquish, diminish or terminate, or provide any Person with the right to modify, relinquish, diminish or terminate, any of Titan's rights under any of the License Agreements or (ii) modify or terminate, or provide any Person with the right to modify or terminate, any of the License Agreements.

(d) No Transfer Without Consent. For so long as the Facility Agreement is in effect, Titan shall not Transfer or consent to the Transfer of any portion of its (i) Fanapt Rights or (ii) rights in, under, or to any of the License Agreements (including any right to receive all or any portion of any royalty or other payment thereunder), without the prior written consent of Deerfield. Following termination or expiration of the Facility Agreement, Titan shall not Transfer or consent to the Transfer of any portion of its (i) Fanapt Rights or (ii) rights in, under or to any of the License Agreement (including any right to receive all or any portion of any royalty or other payment thereunder) that Titan is obligated to pay to Deerfield, or that is necessary for Titan to receive amounts that, if received, it would be obligated to pay to Deerfield, without the prior written consent of Deerfield.

(e) Liquidated Damages. If Titan breaches any of **Sections 4(c)–(d)**, Deerfield shall receive, as liquidated damages for such breach, forty million dollars ($40,000,000). Titan and Deerfield agree that, in the event of a breach of any of **Sections 4(c)-(d)**, actual damages would be impractical to compute and further agree that the damages set forth herein are a reasonable estimate of the damages Deerfield would actually suffer due to such breach.

(f) Other Covenants. Titan shall promptly furnish to Deerfield copies of all written notices sent or actually received by a member of senior management of Titan or any of its

Affiliates relating to any alleged breach, default, amendment, waiver, or termination under any of the License Agreements. Titan shall, at no cost or expense to Deerfield, take all actions, and refrain from taking any other actions, necessary to maintain the License Agreements in full force and effect, including, without limitation, promptly fulfilling all of its obligations and enforcing all of its rights under the License Agreements.

5. Representations and Warranties of Titan. Titan represents and warrants to Deerfield, as of the date hereof, that:

(a) Organization. Titan is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. Titan has all requisite corporate power and authority to own, lease and operate its properties and to carry on its business as is now being conducted.

(b) Authority; Execution; Enforceability. (i) Titan has all requisite corporate power and authority to execute, deliver and perform its obligations under this Agreement, (ii) no consent of any party, including Sanofi, Novartis or any of their Affiliates, is required for Titan to execute, deliver and perform its obligations under this Agreement, and (iii) the execution and delivery of this Agreement and the performance of all of its obligations hereunder have been duly authorized by Titan. This Agreement has been duly executed and delivered by Titan and constitutes the legal, valid and binding obligation of Titan, enforceable against Titan in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, moratorium, reorganization or other laws of general application relating to or affecting creditors' rights generally.

(c) Current Effect. (i) The Sanofi License and Novartis Sublicense and (ii) to Titan's knowledge, the Vanda Sublicense, are in full force and effect and neither Titan nor, to Titan's knowledge, any other Person is in breach or default of any obligation thereunder. Titan has not granted any license or sublicense with respect to, or entered into any other agreement to Transfer or otherwise encumber, its Fanapt Rights other than a security interest therein in favor of Deerfield. To Titan's knowledge, other than the License Agreements, there is no other license, sublicense or other agreement that is, or that contains any term, condition or provision which would, if exercised, be reasonably likely to materially reduce or impair Titan's Fanapt Rights.

(d) No Violation. The execution, delivery and performance of this Agreement by Titan, and Titan's compliance with the terms and conditions hereof, is not prohibited or limited by, and do not and will not conflict with or result in the breach of or a default under, any provision of the certificate of incorporation, bylaws or other formation documents of Titan, any contract, agreement or instrument binding on or affecting Titan, including any of the License Agreements, or any Legal Requirement applicable to Titan.

(e) Financial Condition. No insolvency proceeding of any character, including, without limitation, bankruptcy, receivership, reorganization, composition or arrangement with creditors, voluntary or involuntary, has been commenced by or against Titan or any of its assets or properties, nor has any such proceeding been threatened. Titan does not contemplate and has not taken any action in contemplation of the institution of any such proceeding.

(f) No Known Infringement or Invalidity. Neither (i) Titan's possession or exercise of its Fanapt Rights nor (ii) the License Agreements, including any actions permitted or taken thereunder, violate any Legal Requirement or infringe the valid and enforceable intellectual property rights of any Person.

6. Termination. This Agreement shall terminate upon expiration of the Royalty Term. **Section 2(d)** and **Section 7** shall survive the termination of this Agreement.

7. General Provisions.

(a) Independent Contracting Parties. The Parties are not joint venturers, partners, principal and agent, master and servant, or employer and employee, and have no relationship other than as independent contracting parties. Neither Party shall be a legal representative of the other or have the power to bind or obligate the other in any manner.

(b) Amendment and Modification. This Agreement may be amended, modified or supplemented only by an instrument in writing signed by the Party against whom such amendment, modification or supplement is sought to be enforced.

(c) Waiver of Compliance; Consents. The rights and remedies of the Parties are cumulative and not alternative and may be exercised concurrently or separately. No failure or delay by any Party in exercising any right, power or privilege under this Agreement shall operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege shall preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable law, (i) no waiver that may be given by a Party shall be applicable except in the specific instance for which it is given, and (ii) no notice to or demand on one Party shall be deemed to be a waiver of any obligation of such Party or of the right of the Party giving such notice or demand to take further action without notice or demand as provided in this Agreement. Any consent required or permitted by this Agreement is binding only if in writing.

(d) Notices. All notices, consents, waivers, acceptances, rejections and other communications hereunder shall be in writing and shall be (i) delivered by hand, (ii) sent by facsimile transmission, or (iii) sent certified mail or by a nationally recognized overnight delivery service, charges prepaid, to the address set forth below (or such other address for a Party as shall be specified by like notice):

If to Deerfield, to	Deerfield Management 780 Third Avenue, 37th Floor New York, New York 10017 Attention: Structured Products Facsimile: (646) 536-5662
Copy to:	Robinson, Bradshaw & Hinson, P.A. 101 North Tryon Street, Suite 1900 Charlotte, North Carolina 28246 Attention: Mark O. Henry Facsimile: (704) 339-3428

If to Titan, to:	Titan Pharmaceuticals, Inc. 400 Oyster Point Blvd., Suite 505 South San Francisco, CA 94080 Attention: Chief Executive Officer Facsimile: (650) 244-4956
Copy to:	Loeb & Loeb LLP 345 Park Avenue New York, NY 10154 Attention: Fran Stoller, Esquire Facsimile: (212) 214-0706

Each such notice or other communication shall be deemed to have been duly given and to be effective (x) if delivered by hand, immediately upon delivery if delivered on a Business Day during normal business hours and, if otherwise, on the next Business Day; (y) if sent by facsimile transmission, immediately upon confirmation that such transmission has been successfully transmitted on a Business Day before or during normal business hours and, if otherwise, on the Business Day following such confirmation, or (z) if sent by certified mail or a nationally recognized overnight delivery service, on the day of delivery if delivered during normal business hours on a Business Day and, if otherwise, on the first Business Day after delivery. Notices and other communications sent via facsimile must be followed by notice delivered by hand or by certified mail or overnight delivery service as set forth herein within five Business Days.

(e) Publicity. No Party shall issue any press release or any other form of public disclosure regarding the existence of this Agreement or the terms hereof, or use the name of another Party hereto in any press release or other public disclosure, without the prior written consent of the other Party, except (i) for a press release announcing the execution of this Agreement, which will be mutually approved by the Parties, (ii) for those disclosures and notifications contemplated by this Agreement or containing information previously approved for disclosure by the other Party, (iii) as required by any Legal Requirement and solely to the extent necessary to satisfy such Legal Requirement and (iv) as required by the rules of any securities exchange on which any securities of a Party are traded.

(f) No Assignment. This Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns. Neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned or delegated by Titan without Deerfield's prior written consent.

(g) Governing Law. The execution, interpretation and performance of this Agreement, and any disputes with respect to the transactions contemplated by this Agreement, shall be governed by the internal laws and judicial decisions of the State of New York applicable to contracts made and to be performed entirely within the State of New York.

(h) Severability. If any provision contained in this Agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein, unless the

invalidity of any such provision substantially deprives either Party of the practical benefits intended to be conferred by this Agreement. Notwithstanding the foregoing, any provision of this Agreement held invalid, illegal or unenforceable only in part or degree shall remain in full force and effect to the extent not held invalid or unenforceable, and the determination that any provision of this Agreement is invalid, illegal or unenforceable as applied to particular circumstances shall not affect the application of such provision to circumstances other than those as to which it is held invalid, illegal or unenforceable.

(i) Construction. Each Party acknowledges that it and its attorneys have been given an equal opportunity to negotiate the terms and conditions of this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting party or any similar rule operating against the drafter of an agreement shall not be applicable to the construction or interpretation of this Agreement.

(j) Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may be executed on signature pages exchanged by facsimile, in which event each Party shall promptly deliver to the other such number of original executed copies as the other Party may reasonably request.

(k) Entire Agreement. This Agreement constitutes the entire agreement and understanding of the Parties hereto in respect of the subject matter hereof. This Agreement supersedes all prior agreements, understandings, promises, representations and statements between the Parties and their representatives with respect to the Royalty contemplated by this Agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Royalty Agreement to be executed by their duly authorized representatives as of the date first set forth above.

DEERFIELD PRIVATE DESIGN FUND II, L.P.
By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND, L.P.
By: Deerfield Capital, L.P., General Partner
By: J.E. Flynn Capital LLC, General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

DEERFIELD TTNP CORPORATION

By: /s/ Jeffrey Kaplan
Name: Jeffrey Kaplan
Title: Treasurer

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle
Name: Sunil Bhonsle
Title: President

Exhibit 10.4

EQUITY OPTION AGREEMENT

This Equity Option Agreement (this "Agreement"), dated March 15, 2011, is made by and between **Deerfield TTNP Corporation**, a Delaware corporation ("DTTNP"), **Deerfield Private Design International, II, L.P.**, a British Virgin Islands limited partnership ("PDI II"), **Deerfield Special Situations Fund International, Limited**, a British Virgin Islands company limited by shares ("DSSI" and together with PDI II, "Deerfield") and **Titan Pharmaceuticals, Inc.**, a Delaware corporation ("Titan").

Background Statement

Deerfield Private Design Fund II, L.P., a Delaware limited partnership ("Design Fund II"), Deerfield Special Situations Fund, L.P., a Delaware limited partnership ("DSS"), DTTNP and Titan are parties to a Royalty Agreement, dated as of the date hereof (the "Royalty Agreement"), pursuant to which Titan has agreed to pay a Royalty (as defined in the Royalty Agreement) to Design Fund II, DSS and DTTNP. PDI II and DSSI own all of the capital stock of DTTNP. The parties hereto are entering into this Agreement for the purpose of giving Titan the right to purchase all of the capital stock of DTTNP.

Statement of Agreement

In consideration of the covenants and obligations expressed herein, and intending to be legally bound, the parties hereto agree as follows:

1. Definitions. Capitalized terms shall have the meaning set forth in this section. Unless the context requires otherwise, words in the singular include the plural, words in the plural include the singular, and words importing any gender shall be applicable to all genders. If a term is defined as one part of speech (such as a noun), it shall have a corresponding meaning when used as another part of speech (such as a verb).

"Accrued Royalty" shall mean, as of the Closing Date, the amount of accrued but unpaid Royalty and other amounts, if any, owed by Titan under the Royalty Agreement.

"Business Day" means any day other than Saturday, Sunday or a day on which banks in the City of New York are authorized or required to be closed.

"Closing Date" means the date on which the Estimated Equity Purchase Price is paid.

"Estimated Accrued Royalty" means an estimate of the Accrued Royalty determined as follows:

(i) for all periods of time for which Titan has publicly disclosed Net Sales or such other data as may be relevant to the computation of the Royalty ("Royalty Information"), the Estimated Accrued Royalty shall be determined based upon such publicly reported Royalty Information;

(ii) for all time periods subsequent to the most recent period prior to the Closing Date for which Titan has publicly disclosed Royalty Information (the "Interim Period"), the Royalty Information shall be deemed to be the same, on an average daily basis, as the most recent complete fiscal quarter prior to the Interim Period for which Titan has publicly disclosed Royalty Information.

"Estimated Equity Purchase Price" has the meaning set forth in **Section 2(c)**.

"Equity Purchase Right" has the meaning set forth in **Section 2(a)**.

"Equity Purchase Price" means, as of the Closing Date:

(i) $21,968,000; plus

(ii) 54.92% of the Accrued Royalty; plus

(iii) the amount, if any, of cash and/or cash equivalents held by DDTNP; minus

(iv) the amount, if any, of indebtedness for borrowed money and other liabilities that are required to be recorded on a balance sheet in accordance with GAAP (other than tax liabilities of DTTNP described in **clauses (ii)** and **(v)**); minus

(v) the amount of any accrued but unpaid taxes imposed on DTTNP in respect of income received or accrued on or before the Closing Date.

"Interim Period" has the meaning set forth in the definition of Estimated Accrued Royalty.

"Legal Requirement" has the meaning given such term in the Royalty Agreement.

"Net Sales" has the meaning given such term in the Royalty Agreement.

"Party" means any one of DTTNP, PDI II, DSSI and Titan, and "Parties" means all of them collectively.

"Royalty" has the meaning given such term in the Royalty Agreement.

"Royalty Agreement" has the meaning set forth in the Background Statement.

"Royalty Information" has the meaning set forth in the definition of Estimated Accrued Royalty.

"Royalty Proceeds" means any cash and other consideration received by DTTNP pursuant to the Royalty Agreement, any assets held by DTTNP due to investing such cash and other consideration and any assets held as a return on or realization of such investments.

"Royalty Repurchase Agreement" means that certain Royalty Repurchase Agreement dated as of the date hereof by and between DTTNP, Design Fund II, DSS and Titan.

"Royalty Term" has the meaning given such term in the Royalty Agreement.

2. Equity Purchase Right.

(a) Grant of Equity Purchase Right. At any time prior to the expiration of the Royalty Term, Titan shall have the option (the "Equity Purchase Right") to purchase from Deerfield all of the capital stock of DTTNP for the Equity Purchase Price.

(b) Exercise of Equity Purchase Right. The Company may exercise the Equity Purchase Right by delivering to Deerfield a written notice of exercise (the "Equity Purchase Notice"); provided, that the Equity Purchase Right shall not be effective unless Titan shall have contemporaneously delivered a Royalty Repurchase Notice (as defined in the Royalty Repurchase Agreement) in accordance with the Royalty Repurchase Agreement.

(c) Estimated Equity Purchase Price. Within ten (10) days after receiving the Equity Purchase Notice, Deerfield shall deliver to Titan, Deerfield's estimate of the Equity Purchase Price (the "Estimated Equity Purchase Price") as calculated by Deerfield in good faith based upon the Estimated Accrued Royalty and the books and records maintained by DTTNP in accordance with GAAP in the ordinary course of DTTNP's business. Deerfield shall provide Titan with reasonable access to the books and records of DTTNP during normal business hours in order to allow Titan to verify the calculation of the Estimated Equity Purchase Price. Deerfield's calculation of the Estimated Equity Purchase Price shall be used for purposes of closing the Equity Purchase Right. If prior to the Closing Date, Titan has notified Deerfield that it disagrees with Deerfield's calculations of the Estimated Equity Purchase Price (other than due solely to uncertainty over the amount of the Accrued Royalty), Titan shall notify Deerfield in writing of such disagreement, specifying the amount of such disagreement and the reasons therefor and setting forth Titan's calculations of the Estimated Equity Purchase Price. If such disagreement is not otherwise resolved by Titan and Deerfield, such disagreement shall be resolved after the Closing Date in accordance with **Section 3(b)**. If prior to the Closing Date, Titan has not notified Deerfield in writing that it disagrees with Deerfield's calculation of the Estimated Equity Purchase Price, Deerfield's calculations of the Equity Purchase Price shall be conclusive except to the extent the Equity Purchase Price may increase or decrease due to the difference, if any, between the Accrued Royalty and Estimated Accrued Royalty.

(d) Closing of Equity Purchase Right. The closing of the Equity Purchase Right shall take place thirty (30) days after Deerfield has received the Equity Purchase Notice and Design Fund II and DSS have received the Royalty Repurchase Notice, or such earlier date as may be agreed upon by Titan and Deerfield. Payment of the Estimated Equity Purchase Price shall be made at closing by wire transfer of immediately available funds to an account or accounts designated by Deerfield prior to such date. Unless otherwise agreed by all Parties, payment of the Estimated Equity Purchase Price shall be allocated and paid 77.79% to PDI II and 22.21% to DSSI, in each case rounded to the nearest cent ($0.01). At the closing, Deerfield shall execute any reasonably required documents in connection therewith, including delivering certificates representing all of the capital stock of DTTNP in a form suitable for transfer, duly endorsed or assigned in blank, if applicable.

(e) Covenants. Until the earlier of the Closing Date or expiration of the Royalty Term, Deerfield shall (i) at all times remain the sole owner of all of the outstanding capital stock of DTTNP, including all options, warrants or convertible securities exercisable for or convertible into capital stock of DTTNP, and (ii) not allow any pledge, lien or encumbrance to exist in its equity interest in DTTNP. Until the expiration or exercise of the Equity Purchase Right, Deerfield and DTTNP covenant that DTTNP shall (A) not own, or agree to acquire, any material assets other than its interest in the Royalty Agreement and Royalty Proceeds, (B) not engage in any business other than holding its interest in the Royalty Agreement and holding and investing Royalty Proceeds, (C) maintain accurate and complete books, accounts and records for DTTNP, (D) not have debt for borrowed money or other liabilities that are required to be recorded on a balance sheet in accordance with GAAP in excess of $1,000,000 in the aggregate (other than debt to PDI II or its Affiliates), (E) not grant or allow to exist any pledge, lien or encumbrance in favor of any party other than Deerfield on the assets of DTTNP, in each case immediately prior to the closing of the Equity Purchase Right and (F) not sell, transfer or lease any of its rights in the Royalty Agreement.

(f) Access to Books and Records. Following delivery of the Equity Purchase Notice and until the Closing Date, Titan shall have the right to conduct reasonable due diligence with respect to the books, accounts and records of DTTNP during normal business hours in connection with the exercise of the Equity Purchase Right. Following the Closing Date, Titan shall provide Deerfield with reasonable access to the books, accounts and records of DTTNP during normal business hours for purposes of this Agreement and in connection with the preparation of any audit or tax returns relating to PDI II.

(g) Representations and Warranties. DTTNP hereby represents and warrants as follows:

(i) DTTNP is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware.

(ii) DTTNP has all requisite corporate power and authority to execute, deliver and perform its obligations under this Agreement, and the execution and delivery of this Agreement and the performance of all of its obligations hereunder have been duly authorized by DTTNP. This Agreement has been duly executed and delivered by DTTNP and constitutes the legal, valid and binding obligation of DTTNP, enforceable against DTTNP in accordance with its terms, except as enforceability may be limited or affected by applicable bankruptcy, insolvency, moratorium, reorganization or other laws of general application relating to or affecting creditors' rights generally.

(iii) The signing, delivery and performance of this Agreement by DTTNP is not prohibited or limited by, and will not result in the breach of or a default under, any provision of the certificate of incorporation or bylaws of DTTNP, or of any applicable law, order, writ, injunction or decree of any governmental authority, except for such prohibition, limitation or default as would not prevent consummation by DTTNP of the transactions contemplated hereby.

(iv) As of the date of this Agreement, DTTNP's sole assets consist of cash and cash equivalents and its rights under the Royalty Agreement. DTTNP does not own any interest in any other business entity or joint venture.

(v) DTTNP was formed solely for the purpose of engaging in the transactions contemplated by this Agreement and the Royalty Agreement. DTTNP has not owned, operated or conducted any businesses or activities other than in connection with its organization, the negotiation and execution of this Agreement and the consummation of the transactions contemplated hereby and by the Royalty Agreement.

(vi) DTTNP is not, and does not intend to conduct its business in a manner in which it would be, required to be registered as an "investment company" as defined in Section 3(a) of the Investment Company Act of 1940, as amended.

3. Determination of Accrued Royalty; Dispute Resolution.

(a) Determination of Accrued Royalty. Not later than the earlier of (i) seven (7) days following public disclosure of the Royalty Information and (ii) one hundred twenty (120) days after the Closing Date, Titan shall deliver to Deerfield Titan's calculation of the Accrued Royalty, including the Royalty Information underlying its calculation. Unless within fifteen (15) days of the date it receives Titan's calculation of the Accrued Royalty Deerfield shall have notified Titan in writing that it disagrees with such calculation, the Accrued Royalty calculated by Titan shall constitute the Accrued Royalty and shall be used to determine the Equity Purchase Price. If Deerfield timely delivers a written notice of disagreement with Titan's calculation of Accrued Royalty, Deerfield and Titan shall, during the ten (10) day period following such notice of disagreement, negotiate in good faith in an effort to agree on the amount of the Accrued Royalty. If at the end of such ten (10) day period Titan and Deerfield shall have been unable to reach agreement, the dispute shall be resolved in accordance with **Section 3(b)**.

(b) Dispute Resolution by Independent Accounting Firm. If any dispute is referred, in accordance with this Agreement, for resolution pursuant to this **Section 3(b)**, Titan shall promptly engage an independent accounting firm with national recognition that does not and has not performed any services for Titan and is reasonably acceptable to Deerfield to determine, to the extent disputed, the Equity Purchase Price. If Titan fails to engage an accounting firm within fifteen (15) days after a dispute has become subject to resolution under this **Section 3(b)** (other than due to Deerfield unreasonably rejecting an independent accounting firm selected by Titan), then Deerfield may engage an independent accounting firm with national recognition that does not and has not performed any services for Deerfield. The accounting firm so engaged shall make its own determination of the disputed Equity Purchase Price and communicate such determination to each of Titan and Deerfield in writing, together with a report describing in reasonable detail the procedures used and assumptions relied upon in making such determination. Such determination shall be binding on Titan and Deerfield. The costs of the accounting firm shall be paid 50% by Titan and 50% by Deerfield.

4. Final Payment. Within ten (10) days after the earlier to occur of (i) Titan and Deerfield agreeing upon the amount of the Equity Purchase Price and (ii) the accounting firm's determination pursuant to **Section 3(b)** of the Equity Purchase Price, (A) Deerfield shall pay to

Titan the amount by which the Estimated Equity Purchase Price exceeds the Equity Purchase Price, or (B) Titan shall pay to PDI II and DSSI (in the percentages set forth in **Section 2(d)**) the amount by which the Equity Purchase Price exceeds the Estimated Equity Purchase Price. Such payment shall be made by wire transfer of immediately available funds to such account(s) as the recipient of any such amounts shall notify the payer thereof in writing prior to payment.

5. Term and Termination. This Agreement shall terminate upon expiration or termination of the Royalty Agreement.

6. General Provisions.

(a) Independent Contracting Parties. The Parties are not joint venturers, partners, principal and agent, master and servant, or employer and employee, and have no relationship other than as independent contracting parties. No Party shall be a legal representative of another Party or have the power to bind or obligate another Party in any manner.

(b) Amendment and Modification. This Agreement may be amended, modified or supplemented only by an instrument in writing signed by the Party against whom such amendment, modification or supplement is sought to be enforced.

(c) Waiver of Compliance; Consents. The rights and remedies of the Parties are cumulative and not alternative and may be exercised concurrently or separately. No failure or delay by any Party in exercising any right, power or privilege under this Agreement shall operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege shall preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable law, (i) no waiver that may be given by a Party shall be applicable except in the specific instance for which it is given, and (ii) no notice to or demand on one Party shall be deemed to be a waiver of any obligation of such Party or of the right of the Party giving such notice or demand to take further action without notice or demand as provided in this Agreement. Any consent required or permitted by this Agreement is binding only if in writing.

(d) Notices. All notices, consents, waivers, acceptances, rejections and other communications hereunder shall be in writing and shall be (i) delivered by hand, (ii) sent by facsimile transmission, or (iii) sent certified mail or by a nationally recognized overnight delivery service, charges prepaid, to the address set forth below (or such other address for a Party as shall be specified by like notice):

If to Deerfield, to

Deerfield Management
780 Third Avenue, 37th Floor
New York, New York 10017
Attention: Structured Products
Facsimile: (212) 599-3075

Copy to:	Robinson, Bradshaw & Hinson, P.A. 101 North Tryon Street, Suite 1900 Charlotte, North Carolina 28246 Attention: Mark O. Henry Facsimile: (704) 339-3428
If to Titan, to:	Titan Pharmaceuticals, Inc. 400 Oyster Point Blvd., Suite 505 South San Francisco, CA 94080 Attention: Chief Executive Officer Facsimile: (650) 244-4956
Copy to:	Loeb & Loeb LLP 345 Park Avenue New York, NY 10154 Attention: Fran Stoller, Esquire Facsimile: (212) 214-0706

Each such notice or other communication shall be deemed to have been duly given and to be effective (x) if delivered by hand, immediately upon delivery if delivered on a Business Day during normal business hours and, if otherwise, on the next Business Day; (y) if sent by facsimile transmission, immediately upon confirmation that such transmission has been successfully transmitted on a Business Day before or during normal business hours and, if otherwise, on the Business Day following such confirmation, or (z) if sent by certified mail or a nationally recognized overnight delivery service, on the day of delivery if delivered during normal business hours on a Business Day and, if otherwise, on the first Business Day after delivery. Notices and other communications sent via facsimile must be followed by notice delivered by hand or by certified mail or overnight delivery service as set forth herein within five Business Days.

(e) Publicity. No Party shall issue any press release or any other form of public disclosure regarding the existence of this Agreement or the terms hereof, or use the name of another Party hereto in any press release or other public disclosure, without the prior written consent of the other Party, except (i) for a press release announcing the execution of this Agreement, which will be mutually approved by the Parties, (ii) for those disclosures and notifications contemplated by this Agreement or containing information previously approved for disclosure by the other Party, (iii) as required by any Legal Requirement and solely to the extent necessary to satisfy such Legal Requirement and (iv) as required by the rules of any securities exchange on which any securities of a Party are traded.

(f) No Assignment. This Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns. Neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned or delegated (i) by Titan without Deerfield's prior written consent or (ii) by Deerfield without Titan's prior written consent, such consent not to be unreasonably withheld or delayed

(g) Governing Law. The execution, interpretation and performance of this Agreement, and any disputes with respect to the transactions contemplated by this Agreement, shall be governed by the internal laws and judicial decisions of the State of New York applicable to contracts made and to be performed entirely within the State of New York.

(h) Severability. If any provision contained in this Agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein, unless the invalidity of any such provision substantially deprives either Party of the practical benefits intended to be conferred by this Agreement. Notwithstanding the foregoing, any provision of this Agreement held invalid, illegal or unenforceable only in part or degree shall remain in full force and effect to the extent not held invalid or unenforceable, and the determination that any provision of this Agreement is invalid, illegal or unenforceable as applied to particular circumstances shall not affect the application of such provision to circumstances other than those as to which it is held invalid, illegal or unenforceable.

(i) Construction. Each Party acknowledges that it and its attorneys have been given an equal opportunity to negotiate the terms and conditions of this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting party or any similar rule operating against the drafter of an agreement shall not be applicable to the construction or interpretation of this Agreement.

(j) Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may be executed on signature pages exchanged by facsimile, in which event each Party shall promptly deliver to the other such number of original executed copies as the other Party may reasonably request.

(k) Entire Agreement. This Agreement constitutes the entire agreement and understanding of the Parties hereto in respect of the subject matter hereof. This Agreement supersedes all prior agreements, understandings, promises, representations and statements between the Parties and their representatives with respect to the subject matter hereof.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Equity Option Agreement to be executed by their duly authorized representatives as of the date first set forth above.

DEERFIELD TTNP CORPORATION

By: /s/ Jeffrey Kaplan
Name: Jeffrey Kaplan
Title: Treasurer

DEERFIELD PRIVATE DESIGN INTERNATIONAL II, L.P.
By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND INTERNATIONAL, LIMITED

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle
Name: Sunil Bhonsle
Title: President

Exhibit 10.5

ROYALTY REPURCHASE AGREEMENT

This Royalty Repurchase Agreement (this "Agreement"), dated March 15, 2011, is made by and between **Deerfield Private Design Fund II, L.P.**, a Delaware limited partnership ("Design Fund II"), **Deerfield Special Situations Fund, L.P.**, a Delaware limited partnership ("DSS" and together with Design Fund II, "Deerfield") and **Titan Pharmaceuticals, Inc.**, a Delaware corporation ("Titan").

Background Statement

Design Fund II, DSS, **Deerfield TTNP Corporation**, a Delaware corporation ("DTTNP") and Titan are parties to a Royalty Agreement, dated as of the date hereof (the "Royalty Agreement"), pursuant to which Titan has agreed to pay a Royalty (as defined in the Royalty Agreement) to Design Fund II, DSS and DTTNP. The parties hereto are entering into this Agreement for the purpose of giving Titan the right to repurchase the portion of the Royalty (as defined in the Royalty Agreement) owed by Titan to Design Fund II and DSS.

Statement of Agreement

In consideration of the covenants and obligations expressed herein, and intending to be legally bound, the parties hereto agree as follows:

1. Definitions. Capitalized terms shall have the meaning set forth in this section. Unless the context requires otherwise, words in the singular include the plural, words in the plural include the singular, and words importing any gender shall be applicable to all genders. If a term is defined as one part of speech (such as a noun), it shall have a corresponding meaning when used as another part of speech (such as a verb).

"Accrued Royalty" shall mean, as of the Closing Date, the amount of accrued but unpaid Royalty and other amounts, if any, owed by Titan under the Royalty Agreement.

"Business Day" means any day other than Saturday, Sunday or a day on which banks in the City of New York are authorized or required to be closed.

"Closing Date" means the date on which the Estimated Royalty Repurchase Price is paid.

"DSSI" means Deerfield Special Situations Fund International, Limited, a British Virgin Islands company limited by shares.

"Equity Option Agreement" means that certain Equity Option Agreement dated as of the date hereof by and between DTTNP, PDI II, DSSI and Titan.

"Estimated Accrued Royalty" means an estimate of the Accrued Royalty determined as follows:

(i) for all periods of time for which Titan has publicly disclosed Net Sales or such other data as may be relevant to the computation of the Royalty

("Royalty Information"), the Estimated Accrued Royalty shall be determined based upon such publicly reported Royalty Information;

(ii) for all time periods subsequent to the most recent period prior to the Closing Date for which Titan has publicly disclosed Royalty Information (the "Interim Period"), the Royalty Information shall be deemed to be the same, on an average daily basis, as the most recent complete fiscal quarter prior to the Interim Period for which Titan has publicly disclosed Royalty Information.

"Estimated Royalty Repurchase Price" means the Royalty Repurchase Price determined using the Estimated Accrued Royalty.

"Equity Purchase Right" means the right to purchase all of the capital stock of DTTNP pursuant to the Equity Option Agreement.

"Interim Period" has the meaning set forth in the definition of Estimated Accrued Royalty.

"Legal Requirement" has the meaning given such term in the Royalty Agreement.

"Net Sales" has the meaning given such term in the Royalty Agreement.

"Party" means any one of Design Fund II, DSS, DTTNP and Titan, and "Parties" means all of them collectively.

"PDI II" means **Deerfield Private Design International, II, L.P.**, a British Virgin Islands limited partnership.

"Royalty" has the meaning given such term in the Royalty Agreement.

"Royalty Agreement" has the meaning set forth in the Background Statement.

"Royalty Information" has the meaning set forth in the definition of Estimated Accrued Royalty.

"Royalty Repurchase Price" means, as of the Closing Date:

(i) $18,032,000 plus

(ii) 45.08% of the Accrued Royalty.

"Royalty Repurchase Notice" has the meaning set forth in **Section 2(b)**.

"Royalty Repurchase Right" has the meaning set forth in **Section 2(a)**.

"Royalty Term" has the meaning given such term in the Royalty Agreement.

2. Royalty Repurchase Right.

(a) Grant of Royalty Repurchase Right. At any time prior to the expiration of the Royalty Term, Titan shall have the right (the "Royalty Repurchase Right") to

repurchase all of Deerfield's right, title and interest in and to the Royalty under the Royalty Agreement in consideration of (i) paying the Royalty Repurchase Price to Deerfield, and (ii) exercising and closing the Equity Purchase Right.

(b) Exercise of Royalty Repurchase Right. Titan may exercise the Royalty Repurchase Right by delivering to Deerfield a written notice of exercise (the "Royalty Repurchase Notice"); provided, that the Royalty Repurchase Notice shall not be effective unless Titan shall have simultaneously delivered an Equity Purchase Notice (as defined in the Equity Option Agreement) in accordance with the Equity Option Agreement.

(c) Closing of the Royalty Repurchase Right. The closing of the Royalty Repurchase Right shall take place thirty (30) days after Deerfield has received the Royalty Repurchase Notice and PDI II and DSSI have received the Equity Purchase Notice, or such earlier date as may be agreed upon by Titan and Deerfield. Payment of the Estimated Royalty Repurchase Price shall be made at closing by wire transfer of immediately available funds to an account or accounts designated by Deerfield prior to such date. Unless otherwise agreed by all Parties, payment of the Estimated Royalty Repurchase Price shall be allocated and paid 82.70% to Design Fund II and 17.30% to DSS, in each case rounded to the nearest cent ($0.01).

3. Determination of Accrued Royalty; Dispute Resolution.

(a) Determination of Accrued Royalty. Not later than the earlier of (i) seven (7) days following public disclosure of the Royalty Information and (ii) one hundred twenty (120) days after the Closing Date, Titan shall deliver to Deerfield Titan's calculation of the Accrued Royalty, including the Royalty Information underlying its calculation. Unless within fifteen (15) days of the date it receives Titan's calculation of the Accrued Royalty Deerfield shall have notified Titan in writing that it disagrees with such calculation, the Accrued Royalty calculated by Titan shall constitute the Accrued Royalty and shall be used to determine the Royalty Repurchase Price. If Deerfield timely delivers a written notice of disagreement with Titan's calculation of the Accrued Royalty, Deerfield and Titan shall, during the ten (10) day period following such notice of disagreement, negotiate in good faith in an effort to agree on the amount of the Accrued Royalty. If at the end of such ten (10) day period Titan and Deerfield shall have been unable to reach agreement, the dispute shall be resolved in accordance with **Section 3(b)**.

(b) Dispute Resolution by Independent Accounting Firm. If any dispute is referred, in accordance with this Agreement, for resolution pursuant to this **Section 3(b)**, Titan shall promptly engage an independent accounting firm with national recognition that does not and has not performed any services for Titan and is reasonably acceptable to Deerfield to determine, to the extent disputed, the Royalty Repurchase Price. If Titan fails to engage an accounting firm within fifteen (15) days after a dispute has become subject to resolution under this **Section 3(b)** (other than due to Deerfield unreasonably rejecting an independent accounting firm selected by Titan), then Deerfield may engage an independent accounting firm with national recognition that does not and has not performed any services for Deerfield. The accounting firm so engaged shall make its own determination of the disputed Royalty Repurchase Price and communicate such determination to each of Titan and Deerfield in writing, together with a report describing in

reasonable detail the procedures used and assumptions relied upon in making such determination. Such determination shall be binding on Titan and Deerfield. The costs of the accounting firm shall be paid 50% by Titan and 50% by Deerfield.

4. Final Payment. Within ten (10) days after the earlier to occur of (i) Titan and Deerfield agreeing upon the amount of the Royalty Repurchase Price and (ii) the accounting firm's determination pursuant to **Section 3(b)** of the Royalty Repurchase Price, (A) Deerfield shall pay to Titan the amount by which the Estimated Royalty Repurchase Price exceeds the Royalty Repurchase Price or (B) Titan shall pay to Design Fund II and DSS (in the percentages set forth in **Section 2(c)**) the amount by which the Royalty Repurchase Price exceeds the Estimated Royalty Repurchase Price. Such payment shall be made by wire transfer of immediately available funds to such account(s) as the recipient of any such amounts shall notify the payer thereof in writing prior to payment.

5. Term and Termination. This Agreement shall terminate upon expiration or termination of the Royalty Agreement.

6. General Provisions.

(a) Independent Contracting Parties. The Parties are not joint venturers, partners, principal and agent, master and servant, or employer and employee, and have no relationship other than as independent contracting parties. No Party shall be a legal representative of another Party or have the power to bind or obligate another Party in any manner.

(b) Amendment and Modification. This Agreement may be amended, modified or supplemented only by an instrument in writing signed by the Party against whom such amendment, modification or supplement is sought to be enforced.

(c) Waiver of Compliance; Consents. The rights and remedies of the Parties are cumulative and not alternative and may be exercised concurrently or separately. No failure or delay by any Party in exercising any right, power or privilege under this Agreement shall operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege shall preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable law, (i) no waiver that may be given by a Party shall be applicable except in the specific instance for which it is given, and (ii) no notice to or demand on one Party shall be deemed to be a waiver of any obligation of such Party or of the right of the Party giving such notice or demand to take further action without notice or demand as provided in this Agreement. Any consent required or permitted by this Agreement is binding only if in writing.

(d) Notices. All notices, consents, waivers, acceptances, rejections and other communications hereunder shall be in writing and shall be (i) delivered by hand, (ii) sent by facsimile transmission, or (iii) sent certified mail or by a nationally recognized overnight delivery service, charges prepaid, to the address set forth below (or such other address for a Party as shall be specified by like notice):

If to Deerfield, to	Deerfield Management 780 Third Avenue, 37th Floor New York, New York 10017 Attention: Structured Products Facsimile: (212) 599-3075
Copy to:	Robinson, Bradshaw & Hinson, P.A. 101 North Tryon Street, Suite 1900 Charlotte, North Carolina 28246 Attention: Mark O. Henry Facsimile: (704) 339-3428
If to Titan, to:	Titan Pharmaceuticals, Inc. 400 Oyster Point Blvd., Suite 505 South San Francisco, CA 94080 Attention: Chief Executive Officer Facsimile: (650) 244-4956
Copy to:	Loeb & Loeb LLP 345 Park Avenue New York, NY 10154 Attention: Fran Stoller, Esquire Facsimile: (212) 214-0706

Each such notice or other communication shall be deemed to have been duly given and to be effective (x) if delivered by hand, immediately upon delivery if delivered on a Business Day during normal business hours and, if otherwise, on the next Business Day; (y) if sent by facsimile transmission, immediately upon confirmation that such transmission has been successfully transmitted on a Business Day before or during normal business hours and, if otherwise, on the Business Day following such confirmation, or (z) if sent by certified mail or a nationally recognized overnight delivery service, on the day of delivery if delivered during normal business hours on a Business Day and, if otherwise, on the first Business Day after delivery. Notices and other communications sent via facsimile must be followed by notice delivered by hand or by certified mail or overnight delivery service as set forth herein within five Business Days.

(e) Publicity. No Party shall issue any press release or any other form of public disclosure regarding the existence of this Agreement or the terms hereof, or use the name of another Party hereto in any press release or other public disclosure, without the prior written consent of the other Party, except (i) for a press release announcing the execution of this Agreement, which will be mutually approved by the Parties, (ii) for those disclosures and notifications contemplated by this Agreement or containing information previously approved for disclosure by the other Party, (iii) as required by any Legal Requirement and solely to the extent necessary to satisfy such Legal Requirement and (iv) as required by the rules of any securities exchange on which any securities of a Party are traded.

(f) No Assignment. This Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns. Neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned or delegated (i) by Titan without Deerfield's prior written consent or (ii) by Deerfield without Titan's prior written consent, such consent not to be unreasonably withheld or delayed.

(g) Governing Law. The execution, interpretation and performance of this Agreement, and any disputes with respect to the transactions contemplated by this Agreement, shall be governed by the internal laws and judicial decisions of the State of New York applicable to contracts made and to be performed entirely within the State of New York.

(h) Severability. If any provision contained in this Agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein, unless the invalidity of any such provision substantially deprives either Party of the practical benefits intended to be conferred by this Agreement. Notwithstanding the foregoing, any provision of this Agreement held invalid, illegal or unenforceable only in part or degree shall remain in full force and effect to the extent not held invalid or unenforceable, and the determination that any provision of this Agreement is invalid, illegal or unenforceable as applied to particular circumstances shall not affect the application of such provision to circumstances other than those as to which it is held invalid, illegal or unenforceable.

(i) Construction. Each Party acknowledges that it and its attorneys have been given an equal opportunity to negotiate the terms and conditions of this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting party or any similar rule operating against the drafter of an agreement shall not be applicable to the construction or interpretation of this Agreement.

(j) Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may be executed on signature pages exchanged by facsimile, in which event each Party shall promptly deliver to the other such number of original executed copies as the other Party may reasonably request.

(k) Entire Agreement. This Agreement constitutes the entire agreement and understanding of the Parties hereto in respect of the subject matter hereof. This Agreement supersedes all prior agreements, understandings, promises, representations and statements between the Parties and their representatives with respect to the subject matter hereof.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Royalty Repurchase Agreement to be executed by their duly authorized representatives as of the date first set forth above.

DEERFIELD PRIVATE DESIGN FUND II, L.P.
By: Deerfield Capital, L.P., General Partner
By: J. E. Flynn Capital LLC, General Partner

By: /s/ David Clark
Name: David Clark
Title: Authorized Signatory

DEERFIELD SPECIAL SITUATIONS FUND, L.P.
By: Deerfield Capital, L.P., General Partner
By: J.E. Flynn Capital LLC, General Partner

By: /s/ David J. Clark
Name: David J. Clark
Title: Authorized Signatory

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle
Name: Sunil Bhonsle
Title: President

Exhibit 99.1

Titan Pharmaceuticals, Inc.

TITAN PHARMACEUTICALS ENTERS INTO A $20 MILLION CREDIT FACILITY WITH DEERFIELD MANAGEMENT

South San Francisco, CA – March 16, 2011 — Titan Pharmaceuticals, Inc. (OTC Bulletin Board:TTNP.OB) today announced that it has entered into an agreement with Deerfield Management to provide Titan with $20 million in financing through a five year senior secured credit facility. Funding is expected to occur on or about April 4, 2011. The proceeds will be used to fully repay the current outstanding balance under the Oxford Finance Corporation credit facility, support the ongoing Probuphine™ development program and for general corporate purposes.

"Deerfield is a leading health care investor, and we are pleased that they are funding Titan's growth," said Sunil Bhonsle, President of Titan. "Following a thorough review of the financing options available to the Company, we believe that this credit facility allows us to obtain a significant amount of capital while minimizing equity dilution to shareholders. Importantly, we retain the flexibility to pursue multiple strategic alternatives in the future while advancing the development of Probuphine™ through the ongoing confirmatory Phase 3 clinical study with important results expected in late second quarter," he added.

Titan is expecting to file its 2010 Annual Report on Form 10-K on March 25 followed by a conference call and webcast on Tuesday, March 29 to discuss fourth quarter and full year 2010 results as well as current developments.

RBC Capital Markets acted as exclusive placement agent to Titan for the financing.

Terms of $20 Million Financing

Under the terms of the agreement, Deerfield Management will fund Titan with $20 million on or about April 4, 2011. Interest will accrue on the outstanding balance until maturity at a rate of 8.5% per annum which is payable on a quarterly basis. The facility is repayable over five years, with 10% of the principal amount due on the first anniversary, 15% on the second anniversary, and 25% of the principal amount on each of the next three anniversaries. The Company can pre-pay the outstanding balance at any time at 110% of the remaining principal amount. Deerfield Management has a put right at 110% of the principal amount upon a major transaction (which includes but is not limited to the sale of Fanapt® or Probuphine™).

In conjunction with the financing, Titan has agreed to issue six year warrants to purchase six million shares of common stock at an exercise price of $1.57 per share. The warrants contain

weighted average anti-dilution protection for future issuances, subject to certain exclusions, and other customary provisions. Deerfield Management will also receive 2.5% of the global net sales of Fanapt® subject to a repurchase right by Titan.

The securities to be issued in connection with this transaction have not been registered under the Securities Act or state securities laws and may not be offered or sold in the United States absent registration with the SEC or an applicable exemption from the registration requirements.

This news release is neither an offer to sell nor a solicitation of an offer to buy any of the securities discussed herein, nor shall there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation, or sale would be unlawful prior to registration or qualification under the securities laws of any state.

About Titan Pharmaceuticals

For information concerning Titan Pharmaceuticals, Inc., please visit the Company's website at www.titanpharm.com.

The press release may contain "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Such statements include, but are not limited to, any statements relating to the Company's development program and any other statements that are not historical facts. Such statements involve risks and uncertainties, including, but not limited to, those risks and uncertainties relating to difficulties or delays in development, testing, regulatory approval, production and marketing of the Company's drug candidates, adverse side effects or inadequate therapeutic efficacy of the Company's drug candidates that could slow or prevent product development or commercialization, the uncertainty of patent protection for the Company's intellectual property or trade secrets, and the Company's ability to obtain additional financing. Such statements are based on management's current expectations, but actual results may differ materially due to various factors, including those risks and uncertainties mentioned or referred to in this press release.

CONTACT:

Titan Pharmaceuticals, Inc.
Sunil Bhonsle, 650-244-4990
President

# # #