

**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): November 14, 2011

Titan Pharmaceuticals, Inc.

(Exact name of registrant as specified in charter)

Delaware

(State or other jurisdiction of incorporation)

Delaware
(State or Other Jurisdiction of
Incorporation)

0-27436
(Commission
File Number)

94-3171940
(IRS Employer
Identification No.)

**400 Oyster Point Blvd., Suite 505,
South San Francisco, CA**
(Address of Principal Executive Offices)

94080
(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 November 15, 2011, Titan Pharmaceuticals, Inc. (the “Company” or “Titan”) announced that it had entered into several agreements with entities affiliated with Deerfield Management Company, L.P, a healthcare investment fund (collectively, “Deerfield”), to sell to Deerfield a substantial portion of the Company’s remaining future royalties on the sales of Fanapt® (iloperidone), an atypical antipsychotic approved in the U.S. for the treatment of schizophrenia in adult patients and marketed by Novartis Pharma, AG (“Novartis”), in exchange for \$5.0 million in cash (the “Cash Consideration”), a \$10.0 million reduction in Titan’s outstanding debt to Deerfield and a revised repayment schedule that delays initial payment of principal on the remaining \$10.0 million of debt by one year to April 2013. Funding of the transaction (the “Transaction”) is expected to take place on or about November 30, 2011.

RBC Capital Markets acted as exclusive advisor to the Company in connection with the Transaction.

Each of the material agreements relating to the Transaction 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.

Royalty Agreements

Under a Royalty Purchase Agreement dated November 14, 2011 (the “Royalty Agreement”), following the payment of the Cash Consideration, Deerfield is entitled to the balance of Titan’s portion of the royalties on Fanapt (5.5% to 7.5% of net sales, net of the 2.5% previously sold to Deerfield) up to a threshold sales level (as outlined below) and 40% of any royalties in excess of the threshold level. The Company retains 60% of any royalties on net sales of Fanapt above the threshold levels (the “Retained Royalty Payments”), subject to an agreement that half of any Retained Royalty Payments will be used for the repayment of the Company’s remaining indebtedness to Deerfield under Facility Agreement dated as of March 15, 2015 (the “Facility Agreement”), as amended (see “Master Agreement” below).

<u>2011 4th quarter</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
all	\$70M	\$85M	\$109.25M	\$120.75M	\$126.5M	\$46M

Payments under the Royalty Agreement will be made in accordance with the provisions of the Cash Management Agreement and Paying Agent Agreement described below. 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.

In connection with the Transaction, the parties entered into an Amended and Restated Royalty Agreement, dated November 14, 2011 (the “Restated Royalty Agreement”), pursuant to which payment of the 2.5% royalty previously sold to Deerfield pursuant to the Royalty Agreement dated March 15, 2011 (the “2.5% Royalty”) will be made in accordance with the Cash Management and Paying Agent Agreements described below. The parties also entered into an Amended and Restated Royalty Repurchase Agreement, dated November 14, 2011 (the “Amended Repurchase Agreement”) pursuant to which the \$40.0 million royalty repurchase right was consolidated in one agreement and the Equity Option Agreement dated March 15, 2011 is terminated.

The Royalty Agreement, the Restated Royalty Agreement and the Amended Repurchase Agreement are attached as Exhibits 10.1, 10.2 and 10.3, respectively, to this Current Report on Form 8-K and are incorporated by reference herein.

Payment Agreements

Pursuant to a Cash Management Agreement dated November 14, 2011 (the "Cash Management Agreement"), the Company agreed to instruct Novartis to make the royalty payments due to Titan under the parties' sublicense agreement into a special Titan-owned account (the "Special Account") maintained by U.S Bank National Association (the "Paying Agent") and further agreed not to amend the provisions of such sublicense relating to the timing or amount of such royalty payments. The provisions of the Cash Management Agreement are implemented by a Paying Agent Agreement, dated as of November 14, 2011 (the "Paying Agent Agreement") pursuant to which the Paying Agent will disburse the funds deposited into the Special Account by Novartis to Sanofi and Deerfield in accordance with the Company's instructions. Any other disbursements of such funds, including any Retained Royalty Payments to Titan, will require joint instructions from the Company and Deerfield. The Paying Agent Agreement gives Deerfield the right, under the circumstances set forth in the Master Agreement described below, to assume control of the Special Account in order to perfect a security interest in such account.

The Cash Management Agreement and the Paying Agent Agreement are attached as Exhibits 10.4, and 10.5, respectively, to this Current Report on Form 8-K and are incorporated by reference herein.

Master Agreement

Pursuant to an agreement dated as of November 14, 2011 (the "Master Agreement"), the Company and Deerfield agreed to certain of the terms of the Transaction and amended provisions of certain of the agreements previously entered into by Deerfield and Titan in March 2011. Under the Master Agreement, \$10.0 million of Titan's indebtedness under the Facility Agreement was forgiven and the Facility Agreement was amended to provide for payment of the \$10.0 million principal balance in four equal annual installments commencing April 2013, reflecting a one-year deferral of the first principal installment due date under the original terms of such agreement. The Master Agreement also sets forth the parties' agreement with respect to the use of 50% of any Retained Royalty Payments to repay the outstanding debt to Deerfield under the Facility Agreement and limits Deerfield's ability to assume control of the Special Account to such time, if ever, as the Company has filed or is placed into bankruptcy and a court has determined that the transaction contemplated by the Royalty Agreement is a transfer of a security interest rather than a sale.

The Master Agreement contains amendments to certain defined terms contained in the Security Agreement dated March 15, 2011 between Deerfield and the Company (the "Security Agreement") in order to clarify the scope of Titan's obligations to Deerfield covered by the Security Agreement and the scope of the collateral securing such obligations.

The Master Agreement is attached as Exhibit 10.6 to this Current Report on Form 8-K and is incorporated by reference herein.

Item 9.01. Financial Statements and Exhibits**(d) Exhibits**

- 10.1 Royalty Purchase Agreement, dated November 14, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P. and Horizon Sante TTNP SARL
- 10.2 Amended and Restated Royalty Agreement, dated November 14, 2011 by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P. and Horizon Sante TTNP SARL
- 10.3 Amended and Restated Royalty Repurchase Agreement, dated November 14, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., and Horizon Sante TTNP SARL
- 10.4 Cash Management Agreement, dated November 14, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P. and Horizon Sante TTNP SARL
- 10.5 Paying Agent Agreement, dated November 14, 2011, by and among the Company, Deerfield Management Company, L.P. and U.S. Bank National Association
- 10.6 Agreement, dated as of November 14, 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
- 99.1 Press Release dated November 15, 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: November 16, 2011

Exhibit Index

<u>Exhibit No.</u>	<u>Description</u>
10.1	Royalty Purchase Agreement, dated November 14, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P. and Horizon Sante TTNP SARL
10.2	Amended and Restated Royalty Agreement, dated November 14, 2011 by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P. and Horizon Sante TTNP SARL
10.3	Amended and Restated Royalty Repurchase Agreement, dated November 14, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., and Horizon Sante TTNP SARL
10.4	Cash Management Agreement, dated November 14, 2011, by and among the Company, Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P. and Horizon Sante TTNP SARL
10.5	Paying Agent Agreement, dated November 14, 2011, by and among the Company, Deerfield Management Company, L.P. and U.S. Bank National Association
10.6	Agreement, dated as of November 14, 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
99.1	Press Release dated November 15, 2011

ROYALTY PURCHASE AGREEMENT

This ROYALTY PURCHASE AGREEMENT (this "Agreement"), dated November 14, 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"), **Horizon Santé TTNP SARL**, a Luxembourg limited company ("Horizon" 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 Sublicense"), 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, for the consideration set forth herein, 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) “Applicable Percentage” means the percentage determined according to the following grid:

<u>Year</u>	<u>Percentage</u>
2011	5.5% of Net Sales up to \$200 Million; and 7.5% of Net Sales in excess of \$200 Million
2012	5.5% of Net Sales up to \$70 Million; 2.2% of Net Sales in excess of \$70 Million up to \$200 Million; and 3.0% of Net Sales in excess of \$200 Million
2013	5.5% of Net Sales up to \$85 Million; 2.2% of Net Sales in excess of \$85 Million up to \$200 Million; and 3.0% of Net Sales in excess of \$200 Million
2014	5.5% of Net Sales up to \$109.25 Million; 2.2% of Net Sales in excess of \$109.25 Million up to \$200 Million; and 3.0% of Net Sales in excess of \$200 Million
2015	5.5% of Net Sales up to \$120.75 Million; 2.2% of Net Sales in excess of \$120.75 Million up to \$200 Million; and 3.0% of Net Sales in excess of \$200 Million
2016	5.5% of Net Sales up to \$126.5 Million; 2.2% of Net Sales in excess of \$126.5 Million up to \$200 Million; and 3.0% of Net Sales in excess of \$200 Million
2017	5.5% of Net Sales up to \$46 Million; 2.2% of Net Sales in excess of \$46 Million up to \$200 Million; and 3.0% of Net Sales in excess of \$200 Million

(d) “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.

(e) “Cash Management Agreement” means that certain Cash Management Agreement dated November 14, 2011 between Deerfield and Titan, as the same may be amended, modified and supplemented from time to time.

(f) “Compound” has the meaning given such term in the Sanofi License as of the date hereof.

(g) “Consideration” has the meaning set forth in **Section 3**.

(h) “Deerfield” has the meaning set forth in the introductory paragraph.

(i) “Design Fund II” has the meaning set forth in the introductory paragraph.

(j) “DSS” has the meaning set forth in the introductory paragraph.

(k) “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.

(l) “Effective Date” has the meaning set forth in **Section 3**.

(m) “Facility Agreement” means that Facility Agreement, dated as of March 15, 2011, 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.

(n) “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.

(o) “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.

(p) “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.

(q) “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.

(r) “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.

(s) “Horizon” has the meaning set forth in the introductory paragraph.

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

(u) “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.

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

(w) “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

(x) “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 of 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.

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

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

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

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

(cc) "Paying Agent Agreement" means that certain Paying Agent Agreement dated November 14, 2011 between U.S. Bank, a National Association, Deerfield Management Company, L.P. (as agent for Deerfield) and Titan, as the same may be amended, modified and supplemented from time to time.

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

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

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

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

(hh) "Royalty Term" means the period beginning on the Effective Date and ending December 31, 2017.

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

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

(kk) "Territory" means the world.

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

(mm) "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.

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

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

2. Royalty.

(a) Royalty Amount. In exchange for the Consideration, Titan shall pay to Deerfield a royalty (the "Royalty") equal to the Applicable Percentage of Net Sales occurring during the Royalty Term. The Parties acknowledge and agree that Titan currently has a right to receive royalties from Novartis pursuant to the Novartis

Sublicense, and it is the intention of Titan and Deerfield that the transaction contemplated by this Agreement shall constitute a sale of Titan's right to receive royalties from Novartis pursuant to the Novartis Sublicense in an amount up to the amount of the Royalty, free and clear of all Liens and rights of others (other than the security interest therein in favor of the Noteholders under and as defined in the Facility Agreement) and it is intended that the beneficial interest in and title to Titan's right to receive royalties from Novartis pursuant to the Novartis Sublicense in an amount up to the amount of the Royalty shall not be part of Titan's bankruptcy estate if a petition by or against Titan is filed under any bankruptcy law. If, notwithstanding such intent, such transaction is held not to be a sale, Titan hereby confirms the grant of a security interest in the royalties from Novartis pursuant to the Novartis Sublicense and the proceeds thereof pursuant to the Security Agreement, dated as of March 15, 2011, as amended, between Titan and the Noteholders (as defined in the Facility Agreement). Titan also hereby confirms the grant of a security interest in all of the collateral covered by the Security Agreement, dated as of March 15, 2011, as amended, between Titan and the Noteholders to secure payment of the Royalty.

(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 Horizon, Design Fund II and DSS, allocated pursuant to **Section 2(d)**, 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) Cash Management Agreement and Paying Agent Agreement. Notwithstanding the foregoing, for so long as Titan has the right to receive (which right is partially being sold to Deerfield hereunder) any royalty payments pursuant to the Novartis Sublicense, Titan shall instruct Novartis to make such payments to the account specified in the Cash Management Agreement and Paying Agent Agreement. Deerfield (through its agent, Deerfield Management Company, L.P.) shall then be entitled to receive payment of the Royalty due hereunder from such account pursuant to the Cash Management Agreement and Paying Agent Agreement, and Titan shall remain obligated to pay any portion of the Royalty due hereunder to Deerfield that is not paid to Deerfield pursuant to the Cash Management Agreement and Paying Agent Agreement. The Parties shall sign such joint written instructions as are required under the Cash Management Agreement and Paying Agent Agreement to give effect to the payment provisions set forth in this Agreement.

(d) Allocation between Horizon, Design Fund II and DSS. 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 Horizon, in each case rounded to the nearest cent (\$0.01).

(e) 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.

(f) 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.

(g) Audit Right. Upon not less than fourteen days' written notice, Deerfield shall have the right to audit the books and records of Titan (including those obtained from third parties) 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. Consideration. The parties agree that the fair value consideration (the "Consideration") for Titan's sale and payment of the Royalty is \$5,000,000, delivered as follows: Deerfield shall pay to Titan a one-time purchase price payment of \$5,000,000, which amount shall be paid in immediately available funds to an account specified by Titan on or before November 30, 2011 (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(g)**. 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, eighty-eight million dollars (\$88,000,000). 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. The royalties payable by Novartis to Titan under the Novartis Sublicense are 8% of Net Sales (as defined therein) up to \$200 million and 10% of Net Sales (as defined therein) in excess of \$200 million (collectively, the "Titan Entitlement").

(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(e)** 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. For purposes of clarification, certain of the Parties have also entered into that certain Amended and Restated Royalty Agreement dated as of the date hereof, which agreement also relates to royalties on the same products.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Royalty Purchase 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

HORIZON SANTÉ TTNP SARL

By: /s/ Alexis Cazé

Name: Alexis Cazé

Title: Manager

By: /s/ René Beltjens

Name: René Beltjens

Title: Manager

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle

Name: Sunil Bhonsle

Title: President

AMENDED AND RESTATED ROYALTY AGREEMENT

This AMENDED AND RESTATED ROYALTY AGREEMENT (this "Agreement"), dated November 14, 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"), **Horizon Santé TTNP SARL**, a Luxembourg limited company ("Horizon" and together with Design Fund II and DSS, "Deerfield") and **Titan Pharmaceuticals, Inc.**, a Delaware corporation ("Titan").

Background Statement

Whereas, the Parties (including Horizon as assignee of Deerfield TTNP Corporation) previously entered into a Royalty Agreement dated March 15, 2011 (the "Original Agreement");

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 Sublicense"), 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, pursuant to the Original Agreement, Deerfield acquired the right to receive certain payments in consideration of a one-time payment of \$3,000,000 made by Deerfield to Titan;

Whereas, the Parties desire to amend and restate the Original Agreement in its entirety as follows;

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) “Cash Management Agreement” means that certain Cash Management Agreement dated November 14, 2011 between Deerfield and Titan, as the same may be amended, modified and supplemented from time to time.

(e) “Compound” has the meaning given such term in the Sanofi License as of the date hereof.

(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 March 15, 2011, 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) “Horizon” has the meaning set forth in the introductory paragraph.

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

(s) “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.

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

(u) “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

(v) “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 of 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.

(w) “Novartis” has the meaning set forth in the Background Statement.

(x) “Novartis Sublicense” has the meaning set forth in the Background Statement.

(y) “Party” means either Titan or Deerfield, and “Parties” means both Titan and Deerfield.

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

(aa) “Paying Agent Agreement” means that certain Paying Agent Agreement dated November 14, 2011 between U.S. Bank, a National Association, Deerfield Management Company, L.P. (as agent for Deerfield) and Titan, as the same may be amended, modified and supplemented from time to time.

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

(cc) “Purchase Price” has the meaning set forth in **Section 3**.

(dd) “Quarter” means a fiscal quarter of Titan.

(ee) “ROW Territory” has the meaning set forth in the Vanda Sublicense.

(ff) “Royalty” has the meaning set forth in **Section 2(a)**.

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

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

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

(jj) "Territory" means the world.

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

(ll) "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.

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

(nn) "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 to Titan that was made on the Effective Date, Titan shall pay to Deerfield a royalty (the "Royalty") equal to 2.5% of Net Sales occurring during the Royalty Term. The Parties acknowledge and agree that Titan currently has a right to receive royalties from Novartis pursuant to the Novartis Sublicense, and it is the intention of Titan and Deerfield that the transaction contemplated by this Agreement shall constitute a sale of Titan's right to receive royalties from Novartis pursuant to the Novartis Sublicense in an amount up to the amount of the Royalty, free and clear of all Liens and rights of others (other than the security interest therein in favor of the Noteholders under and as defined in the Facility Agreement) and it is intended that the beneficial interest in and title to Titan's right to receive royalties from Novartis pursuant to the Novartis Sublicense in an amount up to the amount of the Royalty shall not be part of Titan's bankruptcy estate if a petition by or against Titan is filed under any bankruptcy law. If, notwithstanding such intent, such transaction is held not to be a sale, Titan hereby confirms the grant of a security interest in the royalties from Novartis pursuant to the Novartis Sublicense and the proceeds thereof pursuant to the Security Agreement, dated as of March 15, 2011, as amended, between Titan and the Noteholders (as defined in the Facility Agreement). Titan also hereby confirms the grant of a security interest in all of the collateral covered by the Security Agreement, dated as of March 15, 2011, as amended, between Titan and the Noteholders (as defined in the Facility Agreement) to secure payment of the Royalty.

(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 Horizon, allocated pursuant to **Section 2(d)**, 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) Cash Management Agreement and Paying Agent Agreement. Notwithstanding the foregoing, for so long as Titan has the right to receive (which right is partially being sold to Deerfield hereunder) any royalty

payments pursuant to the Novartis Sublicense, Titan shall instruct Novartis to make such payments to the account specified in the Cash Management Agreement and Paying Agent Agreement. Deerfield (through its agent, Deerfield Management Company, L.P.) shall then be entitled to receive payment of the Royalty due hereunder from such account pursuant to the Cash Management Agreement and Paying Agent Agreement, and Titan shall remain obligated to pay any portion of the Royalty due hereunder to Deerfield that is not paid to Deerfield pursuant to the Cash Management Agreement and Paying Agent Agreement. The Parties shall sign such joint written instructions as are required under the Cash Management Agreement and Paying Agent Agreement to give effect to the payment provisions set forth in this Agreement.

(d) Allocation between Design Fund II, DSS and Horizon. 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 Horizon, in each case rounded to the nearest cent (\$0.01).

(e) 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.

(f) 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.

(g) 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 sale and payment of the Royalty, Deerfield paid to Titan a one-time purchase price of \$3,000,000 (the "Purchase Price") on April 5, 2011 (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(g)**. 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(e)** 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 (including the Original Agreement), understandings, promises, representations and statements between the Parties and their representatives with respect to the Royalty contemplated by this Agreement. For purposes of clarification, certain of the Parties have also entered into that certain Royalty Purchase Agreement dated as of the date hereof, which agreement also relates to royalties on the same products.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Amended and Restated 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

HORIZON SANTÉ TTNP SARL

By: /s/ Alexis Cazé
Name: Alexis Cazé
Title: Manager

By: /s/ René Beltjens
Name: René Beltjens
Title: Manager

TITAN PHARMACEUTICALS, INC.

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

AMENDED AND RESTATED ROYALTY REPURCHASE AGREEMENT

This Amended and Restated Royalty Repurchase Agreement (this "Agreement"), dated November 14, 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"), **Horizon Santé TTNP SARL**, a Luxembourg limited company ("Horizon") and together with Design Fund II and DSS, "Deerfield") and **Titan Pharmaceuticals, Inc.**, a Delaware corporation ("Titan").

Background Statement

Deerfield and Titan are parties to an Amended and Restated 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 Deerfield. The parties hereto are entering into this Agreement for the purpose of giving Titan the right to repurchase the Royalty.

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 Deerfield TTNP Corporation, 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.

“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, Horizon 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) \$40,000,000 plus
- (ii) 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 paying the Royalty Repurchase Price to Deerfield.

-
- (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”).
 - (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, 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 37.28% to Design Fund II, 7.8% to DSS and 54.92 % to Horizon, 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 Deerfield (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) Termination of Equity Option Agreement. The Parties acknowledge and agree that the Equity Option Agreement is terminated and of no further force and effect.

(l) 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 Amended and Restated 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

HORIZON SANTÉ TTNP SARL

By: /s/ Alexis Cazé

Name: Alexis Cazé

Title: Manager

By: /s/ René Beltjens

Name: René Beltjens

Title: Manager

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle

Name: Sunil Bhonsle

Title: President

CASH MANAGEMENT AGREEMENT (this "Agreement"), dated November 14, 2011, by and between Titan Pharmaceuticals, Inc., a Delaware corporation ("Titan"), 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 Horizon Sante TTNP SARL, a Luxembourg limited company ("Horizon") and together with Design Fund II and DSS, the "Purchasers" and, together with Titan, the "Parties").

WITNESSETH:

WHEREAS:

1. Pursuant to Section 9.2 of the Worldwide License Agreement between Titan and Hoechst Marion Roussel, Inc. ("Sanofi"), effective as of December 31, 1996, as amended (the "Sanofi License"), Titan is required to pay to Sanofi within 60 days after the close of each calendar quarter the royalties earned thereunder (the "Titan-Sanofi Royalties").

2. Pursuant to Section 9.2 of the Sublicense Agreement between Titan and Novartis Pharma A.G. ("Novartis"), effective as of November 20, 1997, as amended (the "Novartis Sublicense"), Novartis is required to pay to Titan within 45 days after the close of each calendar quarter the royalties earned thereunder (the "Novartis-Titan Royalties").

3. Design Fund II, DSS, Horizon and Titan are party to an Amended and Restated Royalty Agreement, dated the date hereof (the "Amended Purchase Agreement").

4. Design Fund II, DSS, Horizon and Titan are party to a Royalty Purchase Agreement, dated the date hereof (the "New Purchase Agreement").

5. Section 2 (b) of the Amended Purchase Agreement requires Titan to pay to Design Fund II, DSS and Horizon, the Royalty, as such term is defined in the Amended Purchase Agreement (the "Amended Novartis Royalty"), on the terms set forth therein.

6. Section 2 (b) of the New Purchase Agreement requires Titan to pay to Design Fund II, DSS and Horizon, the Royalty, as such term is defined in the New Purchase Agreement (the "New Novartis Royalty"), on the terms set forth therein.

7. Following Titan's receipt in immediately available funds of the Consideration (as defined in the New Purchase Agreement) in an amount of not less than Five Million Dollars (\$5,000,000) (the "Wire Transfer"), Titan will instruct Novartis pursuant to Section 3.2(a) of the Novartis Sublicense to pay the Novartis-Titan Royalties by bank wire transfer to the Titan owned account specified therein maintained with the Paying Agent as defined below (the "Special Account").

8. The Parties have entered into a Paying Agent Agreement (the "Paying Agent Agreement") in the form attached hereto as Exhibit A,

NOW, THEREFORE, in consideration of the mutual covenants contained herein and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

1. Titan shall cause Novartis to deposit the Novartis-Titan Royalties when due pursuant to the Novartis Sublicense in the Special Account and shall take such other action as the Purchasers may reasonably request to effect the provisions of the Paying Agent Agreement.

2. Titan shall not amend (a) the amount of the Titan-Sanofi Royalties or the Novartis-Titan Royalties or (b) the Sanofi Payment Date or the date Novartis is required to pay to Titan the Novartis-Titan Royalties pursuant to the Novartis Sublicense, in each case in effect on the date of this Agreement.

3. The provisions of Section 7 of the New Purchase Agreement are hereby incorporated herein by reference, mutatis mutandis.

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.

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle

Name: Sunil Bhonsle

Title: President

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Capital, L.P., General Partner

By: J. E. Flynn Capital LLC, General Partner

By: /s/ James E. Flynn

Name: James E. Flynn

Title: President

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Capital, L.P., General Partner

By: J. E. Flynn Capital LLC, General Partner

By: /s/ James E. Flynn

Name: James E. Flynn

Title: President

HORIZON SANTE TTNP SARL

By: /s/ Alexis Cazé

Name: Alexis Cage

Title: Manager

By: /s/ René Beltjens

Name: Rene Beltjens

Title: Manager

PAYING AGENT AGREEMENT

This Paying Agent Agreement is dated as of November 14, 2011 (this "Agreement") by and among Titan Pharmaceuticals, Inc., a Delaware corporation ("Titan"), Deerfield Management Company, L.P., a Delaware limited partnership ("Deerfield") and U.S. Bank National Association, as paying agent (the "Paying Agent").

WHEREAS, Titan and Deerfield wish to implement the provisions of a Cash Management Agreement dated the date hereof,

NOW THEREFORE, in consideration of the representations, warranties and covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

**ARTICLE 1
ACCOUNT**

Section 1.01 Appointment of Paying Agent. Titan and Deerfield each hereby appoint the Paying Agent to serve as paying agent in connection with disbursements of funds from the Account (as defined below). The Paying Agent hereby accepts such appointment pursuant to the terms and conditions set forth in this Agreement.

Section 1.02 Establishment of Account; Deposits.

The Paying Agent shall establish a custodial deposit account on behalf of Titan to receive, hold and distribute the amounts contained therein to be disbursed pursuant to the provisions of this Agreement (the "Account"). Funds will be deposited by or on behalf of Novartis Pharma A.G. in the Account from time to time.

Section 1.03 Investments.

(a) The Paying Agent is hereby directed to hold any funds delivered to the Paying Agent for deposit in the Account pursuant to this Agreement un-invested, unless the Paying Agent receives joint written instructions signed by an authorized agent on behalf of Deerfield and Titan directing that the Paying Agent invest and reinvest funds in the Account.

(b) Deerfield and Titan recognize and agree that the Paying Agent will not provide supervision, recommendations or advice relating to either the investment of moneys held in the Account or the purchase, sale, retention or other disposition of any permitted investment.

(c) Any interest on amounts on deposit in the Account and other earnings on permitted investments shall be added to the Account. Any loss or expense incurred as a result of an investment will be borne by the Account.

(d) The Paying Agent shall send statements to Titan and Deerfield on a monthly basis reflecting activity in the Account for the preceding month. Although Deerfield

and Titan each recognize that it may obtain a broker confirmation or written statement containing comparable information at no additional cost, Deerfield and Titan each hereby agree that confirmations of permitted investments are not required to be issued by the Paying Agent for each month in which a monthly statement is rendered. A statement for the Account will be provided to Titan and Deerfield each month regardless of whether there is any activity in the Account for such month.

(e) The Paying Agent shall have the right to liquidate any investments held in the Account in order to provide funds necessary to make required payments under this Agreement. The Paying Agent shall have no liability for any loss sustained as a result of any investment made in accordance with this Agreement or as a result of any liquidation of any investment prior to its maturity.

ARTICLE 2 DISBURSEMENTS, TERMINATION AND RESIGNATION AND REMOVAL

Section 2.01 Disbursements of Funds in the Account.

(a) The Paying Agent shall only comply with written payment instructions received from Titan (the "Titan Remittance Instructions") with respect to the remittance of funds in the Account to either of Sanofi and/or Deerfield (each, a "Specified Payee"). As soon as practicable following the Paying Agent's receipt of the Titan Remittance Instructions, the Paying Agent shall remit funds in the Account by wire transfer to the Specified Payee in accordance with such Titan Remittance Instructions.

(b) The Paying Agent shall only comply with the joint written instructions received from Titan and Deerfield (the "Joint Remittance Instructions") with respect to the remittance of funds in the Account to any person or entity other than a Specified Payee. As soon as practicable following the Paying Agent's receipt of the Joint Remittance Instructions, Paying Agent shall remit funds in the Account by wire transfer to the person or entity identified in and in accordance with such Joint Remittance Instructions.

Section 2.02 Tax Reporting. (a) For tax reporting purposes, any interest or other income earned on amounts on deposit in the Account and any investment of the Account shall, as of the end of each calendar year and to the extent required by the Internal Revenue Service (the "IRS"), be reported as having been earned by Titan.

(b) Titan represents that its correct Taxpayer Identification number ("TIN") as assigned by the IRS or any other taxing authority is set forth in Exhibit C. Upon execution of this Agreement, Titan shall provide the Paying Agent with fully executed W-8 or W-9 IRS forms that includes Titan's TIN. In the event that any earnings remain undistributed at the end of any calendar year, the Paying Agent shall report to the IRS or other applicable taxing authority such earnings as it deems appropriate or as required by any applicable law or regulation. In addition, the Paying Agent shall withhold any taxes it deems appropriate and shall remit such taxes to the appropriate authorities. Prior to completing a disbursement to any given wire recipient, the Paying Agent shall receive a fully executed W-9 or W-8 IRS form from that recipient, as appropriate.

Section 2.03 Termination of Agreement. This Agreement may only be terminated by the written agreement of the parties hereto.

Section 2.04 Resignation and Removal of Paying Agent. The Paying Agent may resign from the performance of its duties hereunder at any time by giving thirty (30) days' prior written notice to Titan and Deerfield or may be removed, with or without cause, by Titan and Deerfield at any time by giving thirty (30) days' prior joint written notice to the Paying Agent. Such resignation or removal shall take effect upon the appointment of a successor paying agent by Titan and Deerfield acting jointly. Upon the acceptance in writing of any appointment as paying agent hereunder by a successor paying agent, such successor paying agent shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Paying Agent, and the retiring Paying Agent shall be discharged from its duties and obligations under this Agreement, but shall not be discharged from any liability for actions taken as Paying Agent under this Agreement, prior to such succession. After any retiring Paying Agent's resignation or removal, the provisions of this Agreement shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Paying Agent under this Agreement. The Paying Agent shall have the right to withhold an amount equal to any amount due and owing to the Paying Agent as of the date its resignation or removal becomes effective plus any costs and expenses the Paying Agent reasonably believes it will incur in connection with its resignation or removal hereunder.

ARTICLE 3 RESPONSIBILITIES OF PAYING AGENT

Section 3.01 Paying Agent Responsibilities. The Paying Agent's acceptance of its duties under this Agreement is subject to the following terms and conditions, which the parties hereto agree shall govern and control with respect to its rights, duties, liabilities and immunities:

(a) Except as to its due execution and delivery of this Agreement, it makes no representation and has no responsibility as to the validity of this Agreement or of any other instrument referred to herein, or as to the correctness of any statement contained herein, and it shall not be required to inquire as to the performance of any obligation under any other agreement;

(b) The Paying Agent shall be protected in acting upon any written notice, request, waiver, consent, receipt or other paper or document, not only as to its due execution and the validity and effectiveness of its provisions, but also as to the truth of any information therein contained, which it in good faith believes to be genuine and what it purports to be. Concurrently with the execution of this Agreement, each of Titan and Deerfield shall deliver to the Paying Agent an authorized signers form attached hereto as Exhibit A;

(c) The Paying Agent may consult with competent and responsible legal counsel selected by it and it shall not be liable for any action taken or omitted by it in good faith in accordance with the advice of such counsel;

(d) Titan shall reimburse the Paying Agent for all reasonable expenses incurred by it in connection with its duties hereunder (other than taxes imposed in respect of the receipt of fees by the Paying Agent). Titan agrees to indemnify, defend and hold the Paying Agent and its directors, employees, officers, agents, successors and assigns (collectively, the "Indemnified Parties") harmless from and against any and all losses, claims, damages, liabilities and expenses including, without limitation, reasonable costs of attorney's fees and expenses (collectively, "Damages"), incurred by the Paying Agent without gross negligence or willful misconduct on its part and arising out of or in connection with the performance by the Paying Agent of its duties under this Agreement. Such indemnity includes, without limitation, damages incurred in connection with any litigation arising from this Agreement or involving the subject matter hereof. The indemnification provisions contained in this section are in addition to any other rights any of the Indemnified Parties may have by law or otherwise and shall survive the termination of this Agreement or the resignation or removal of the Paying Agent;

(e) The Paying Agent shall have no duties or responsibilities except those expressly set forth herein, and it shall not be bound by any modification of this Agreement unless in writing and signed by all parties hereto or their respective successors in interest;

(f) The Paying Agent shall have no responsibility in respect of the validity or sufficiency of this Agreement or of the terms hereof. The recitals of facts in this Agreement shall be taken as the statements of Titan and Deerfield, and the Paying Agent assumes no responsibility for the correctness of the same;

(g) Titan and Deerfield may from time to time request that the Paying Agent render a detailed accounting of the funds in the Account, which request shall be complied by the Paying Agent as soon as practicable following such request;

(h) The Paying Agent shall be protected in acting upon any notice, resolution, request, consent, order, certificate, report, opinion, bond or other paper or document reasonably believed by it to be genuine and to have been signed and presented by the proper party or parties. Whenever the Paying Agent shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering any action under this Agreement, such matter may be deemed conclusively proved and established by a certificate signed by Titan and Deerfield, and such certificate shall be full warranty for any action taken or suffered in good faith under the provisions of this Agreement;

(i) The Paying Agent does not have any interest in the Account, but is serving as Paying Agent only and having only possession thereof. This Section shall survive notwithstanding any termination of this Agreement or the resignation of the Paying Agent;

(j) THE PAYING AGENT SHALL NOT BE LIABLE, DIRECTLY OR INDIRECTLY, FOR ANY (I) DAMAGES, LOSSES OR EXPENSES ARISING OUT OF THE SERVICES PROVIDED HEREUNDER, OTHER THAN DAMAGES, LOSSES OR EXPENSES WHICH HAVE BEEN FINALLY ADJUDICATED TO HAVE DIRECTLY RESULTED FROM THE PAYING AGENT'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, OR (II) SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR LOSSES OF ANY KIND WHATSOEVER (INCLUDING WITHOUT LIMITATION LOST PROFITS), EVEN IF THE PAYING AGENT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES AND REGARDLESS OF THE FORM OF ACTION;

(k) No provision of this Agreement shall require the Paying Agent to risk or advance its own funds or otherwise incur any financial liability or potential financial liability in the performance of its duties or the exercise of its rights under this Agreement;

(l) If any conflict, disagreement or dispute arises between Titan and Deerfield concerning the meaning or validity of any provision hereunder or concerning any other matter relating to this Agreement, or the Paying Agent is in doubt as to the action to be taken hereunder, the Paying Agent is authorized to retain any portion of the funds in the Account determined by the Paying Agent in its reasonable discretion (any such portion of the funds in the Account so retained, the "Retained Portion") until the Paying Agent (i) receives a final non-appealable order of a court of competent jurisdiction or a final non-appealable arbitration decision directing delivery of the Retained Portion, (ii) receives a written agreement executed by Titan and Deerfield directing delivery of the Retained Portion, in which event the Paying Agent shall be authorized to disburse the Retained Portion in accordance with such final court order, arbitration decision, or agreement, or (iii) files an interpleader action in any court of competent jurisdiction, and upon the filing thereof, the Paying Agent shall be relieved of all liability as to the Retained Portion and shall be entitled to recover reasonable attorneys' fees, expenses and other costs incurred in commencing and maintaining any such interpleader action. The Paying Agent shall be entitled to act on any such agreement, court order, or arbitration decision without further question, inquiry, or consent. The Paying Agent shall not be obligated to take any legal action or commence any proceeding in connection with the funds specified herein, any account in which they are deposited, this Agreement, or to appear in, prosecute or defend any such legal action or proceeding; and

(m) If any portion of the funds in the Account shall be attached, garnished or levied upon by any court order, or the delivery thereof shall be stayed or enjoined by an order of a court, or any order, judgment or decree shall be made or entered by any court order affecting funds in the Account, the Paying Agent is hereby expressly authorized, in its sole discretion, to respond as it deems appropriate or to comply with all writs, orders or decrees so entered or issued, or which it is advised by legal counsel of its own choosing is binding upon it, whether with or without jurisdiction. If the Paying Agent obeys or complies with any such writ, order or decree it shall not be liable to Titan, Deerfield or to any other person, firm or corporation, should, by reason of such compliance notwithstanding, such writ, order or decree be subsequently reversed, modified, annulled, set aside or vacated.

ARTICLE 4
REPRESENTATION AND WARRANTIES

Section 4.01 Representation and Warranties. Each of Titan and Deerfield represents and warrants that (a) it is duly organized, validly existing and, to the extent applicable under the laws of the jurisdiction of its organization, in good standing under the laws of its jurisdiction of its organization, (b) it has all requisite corporate and partnership power and authority, as the case may be, to execute and deliver this Agreement and perform its obligations hereunder, (c) the execution and delivery of this Agreement and the consummation of all transactions contemplated thereby have been duly authorized by all necessary corporate and partnership action, as the case may be, and will not result in any violation of any applicable law or regulation, and (d) this Agreement has been duly executed and delivered by, and constitutes a legal, valid, binding and enforceable obligation of each.

ARTICLE 5
PAYING AGENT FEES AND EXPENSES

Section 5.01 Fees and Expenses of Paying Agent. Titan shall compensate the Paying Agent for its services hereunder in accordance with **Exhibit B** attached hereto and, in addition, shall reimburse the Paying Agent for all costs and expenses, including reasonable attorneys' fees, occasioned by any delay, controversy, litigation or event arising out of the transactions contemplated by this Agreement. All of the compensation and reimbursement obligations set forth in this Section shall be payable as soon as practicable after submission by the Paying Agent to Titan of an invoice detailing such expenses. The obligations of Titan under this Section shall survive any termination of this Agreement and the resignation or removal of the Paying Agent.

ARTICLE 6
MISCELLANEOUS

Section 6.01 Notices. All notices, requests, demands, letters, waivers and other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if (a) delivered personally, (b) mailed, certified or registered mail with postage prepaid, (c) sent by next-day or overnight mail or delivery or (d) sent by fax, as follows:

If to Titan:

Titan Pharmaceuticals, Inc.
400 Oyster Point Blvd., Suite 505
South San Francisco, CA 04080
Attention: President
Facsimile: 650-244-4956

If to Deerfield:

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

If to the Paying Agent:

U.S. Bank National Association
1021 East Cary Street, Suite 1850
Richmond, Virginia 23219
Attn: Global Corporate Trust Services
Facsimile: (804) 343-1572

or to such other person or address as any party shall specify by notice in writing to the party entitled to notice. All such notices, requests, demands, letters, waivers and other communications shall be deemed to have been received (i) if by personal delivery on the day after such delivery, (ii) if by certified or registered mail, on the fifth business day after the mailing thereof, (iii) if by next-day or overnight mail or delivery, on the day delivered or (iv) if by fax, on written confirmation of receipt, provided that a copy is also sent by certified or registered mail.

Section 6.02 Governing Law. This Agreement shall be construed, performed and enforced in accordance with the laws of the State of New York applicable to contracts made and to be performed in such State.

Section 6.02A Additional Information. To help the government fight the funding of terrorism and money laundering activities, Federal law requires all financial institutions to obtain, verify and record information that identifies each person who opens an account. For a non-individual person such as a business entity, a charity, a trust or other legal entity the Paying Agent will ask for documentation to verify its formation and existence as a legal entity. The Paying Agent may also ask to see financial statements, licenses, identification, and authorization documents from individuals claiming authority to represent the entity or other relevant documentation.

Section 6.03 Other.

(a) This Agreement shall be binding upon and inure to the benefit of the parties and their successors. Neither this Agreement nor any right or interest hereunder may be assigned in whole or in part by any party, except as provided in Section 2.04, without the prior consent of the other parties.

(b) The headings in this Agreement are for convenience of reference only and shall not define or limit the provisions thereof.

(c) This Agreement may be executed in several counterparts, each of which is an original but all of which together shall constitute one instrument.

(d) The parties agree that if any provision of this Agreement shall under any circumstances be deemed invalid or inoperative, this Agreement shall be construed and enforced accordingly, and the invalidity of any portion of this Agreement shall not affect the validity of the remainder hereof.

(e) This Agreement may be amended, or any provision of this Agreement may be waived; provided, however, that (i) any such amendment or waiver will be binding on Titan and Deerfield only if such amendment or waiver is set forth in a writing jointly executed by each and (ii) any such amendment or waiver will be binding upon the Paying Agent only if such amendment or waiver is set forth in a writing executed by the Paying Agent. The waiver by any party hereto of a breach of any provision of this Agreement shall not operate or be construed as a waiver of any other breach.

(f) This Agreement embodies the entire agreement between the parties with respect to the establishment and disbursement of the Account by the Paying Agent, and there are no restrictions, provisions, representations, warranties, covenants or undertakings relating to such subject matter, other than those set forth or provided for herein. This Agreement supersedes all prior agreements and understandings between the parties with respect to such subject matter. The actions of the Paying Agent shall be governed solely by this Agreement. The Paying Agent shall neither be responsible for, nor chargeable with, knowledge of the terms and conditions of any other agreement, instrument or document other than this Agreement and the Paying Agent shall have no duty to know or inquire as to the performance or nonperformance of any provision of any such agreement, instrument or document.

(g) To perfect the security interest provided for in Section 2(a) of the (i) Royalty Purchase Agreement, dated the date hereof, made by and between Deerfield Private Design Fund II, LP, Deerfield Special Situations Fund, L.P., Horizon Santé TTNP SARL (collectively, the "Deerfield Parties") and Titan, and (ii) Amended and Restated Royalty Agreement, dated the date hereof, by and between the Deerfield Parties and Titan, the Paying Agent shall comply with instructions originated by Deerfield and received in writing by the Paying Agent directing the disposition of funds in the Account at any time without further consent of Titan or any other person. Deerfield acknowledges that it has agreed to originate such instructions only in the circumstances provided in Section 4 of the Agreement dated the date hereof by and among Titan, Deerfield Private Design Fund II, L.P., Deerfield Private Design Fund International II, L.P. et al., as amended, modified and supplemented from time to time. However, if the Paying Agent receives such instructions, the terms of this Section 6.03(g) will prevail. Solely for purposes of this Section 6.03(g) and the UCC, the State of New York shall be deemed to be the "bank's jurisdiction" (within the meaning of Section 9-304 of the UCC) of the Paying Agent.

(h) Titan shall deliver to the Paying Agent on the date hereof a completed Exhibit C. The Paying Agent agrees to keep the information set forth on Exhibit C confidential and use such information only for the purposes set forth herein and for no other purpose. Titan acknowledges that a portion of the identifying information required to be set forth on Exhibit C is being requested by the Paying Agent in connection with the USA Patriot Act, Pub.L.107-56 (the "Act") and Titan agrees to provide any additional information requested by the Paying Agent in connection with the Act or any similar legislation or regulation to which the Paying Agent is subject, in a timely manner. Titan represents that all identifying information set forth on Exhibit C including without limitation, its TIN, is true and complete on the date hereof and will be true and complete at the time of any disbursement of the funds in the Account. Titan shall notify the Paying Agent immediately upon any changes to the Identifying Information of Titan as is set forth in Exhibit C.

(i) No party to this Agreement is liable to any other party for losses due to, or if it is unable to perform its obligations under the terms of this Agreement because of, acts of God, fire, floods, earthquake, strikes, equipment or transmission failure, war, riot, nuclear accident, terror attack, computer piracy, cyber-terrorism, or other causes reasonably beyond its control.

IN WITNESS WHEREOF, the parties hereto have caused this Paying Agent Agreement to be executed as of the date first above written.

U.S. BANK NATIONAL ASSOCIATION, as
Paying Agent

By: /s/ Stephanie E. Haysley
Name: Stephanie E. Haysley
Its: Vice President

TITAN PHARMACEUTICALS, INC.

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

DEERFIELD MANAGEMENT COMPANY, L.P.

By: Flynn Management LLC, its General Partner

By: /s/ James E. Flynn
James E. Flynn, President

EXHIBIT A

Certificate as to Authorized Signatures

The specimen signatures shown below are the specimen signatures of the individuals who have been designated as Authorized Representatives of Titan Pharmaceuticals, Inc. and are authorized to initiate and approve transactions of all types for the Account established by the Agreement to which this Exhibit A is attached on behalf of Titan.

<u>Name/Title</u>	<u>Specimen Signature</u>
Sunil Bhonsle _____ Name	/s/ Sunil Bhonsle _____
President _____ Title	_____
_____ Name	_____
_____ Title	_____
_____ Name	_____
_____ Title	_____

The specimen signatures shown below are the specimen signatures of the individuals who have been designated as Authorized Representatives of Deerfield Management Company, L.P. and are authorized, acting simply, to initiate and approve transactions of all types for the Account established by the Agreement to which this Exhibit A is attached on behalf of Deerfield.

<u>Name/Title</u>	<u>Specimen Signature</u>
<u>James E. Flynn</u> Name	<u>/s/ James E. Flynn</u>
<u>General Partner</u> Title	
<u>Darren Levine</u> Name	<u>/s/ Darren Levine</u>
<u>Chief Financial Officer</u> Title	
<u>David J. Clark</u> Name	<u>/s/ David J. Clark</u>
<u>General Counsel</u> Title	

EXHIBIT B

Schedule of Fees for Paying Agent Services

ACCEPTANCE FEE

\$2,000.00

Covers review, consideration, establishment and acceptance of the Paying Agent account and relevant governing documents.

ANNUAL PAYING AGENT FEE

9,000.00

For the normal administration of the Paying Agent account, including the maintenance of proper records and performance of the duties and functions required under the terms and provisions of the Paying Agent Agreement.

OTHER FEES

Transactional & Processing Costs:

Checks/Wires

Waived

Tax Reporting (if applicable)

Included in annual fee

OUT-OF-POCKET & LEGAL EXPENSES (if applicable)

Billed at Cost

Reimbursement of direct expenses associated with the performance of our duties including, but not limited to, publications, mailings, legal and travel expenses.

ARTICLE 7 EXTRAORDINARY SERVICES

Extraordinary fees are payable to the Paying Agent for duties or responsibilities not expected to be incurred at the outset of the transaction, not routine or customary, and not incurred in the ordinary course of business. Payment of extraordinary fees is appropriate where particular inquiries, events or developments are unexpected, even if the possibility of such things could have been identified at the inception of the transaction.

EXHIBIT C

1. Titan's Taxpayer Identification Number: 94-3171940
2. Address:
 - Titan Pharmaceuticals, Inc.
 - 400 Oyster Point Blvd., Suite 505
 - South San Francisco, CA 04080
 - Attention: Sunil Bhonsle
 - Facsimile: 650-244-4956
 - Email: sbhonsle@titanpharm.com

AGREEMENT (this "Agreement"), dated as of November 14, 2011, by and among Titan Pharmaceuticals, Inc., a Delaware corporation ("Titan"), Deerfield Private Design Fund II, L.P., a Delaware limited partnership ("DPDF"), Deerfield Private Design International II, L.P., a limited partnership organized under the laws of the British Virgin Islands ("DPDI"), Deerfield Special Situations Fund, L.P., a Delaware limited partnership ("DSS Del.") and Deerfield Special Situations Fund International Limited, a company organized under the laws of the British Virgin Islands ("DSS BVI") and together with DPDF, DPDI and DSS Del., individually, a "Noteholder" and together, the "Noteholders" and, together with Titan, the "Parties").

WHEREAS, the Parties are party to a Facility Agreement dated as March 15, 2011 pursuant to which, among other things, Titan issued to the Noteholders the Notes (as defined in the Facility Agreement), each dated April 5, 2011, in the aggregate original principal amount of \$20,000,000. Such Notes, the allocation of the outstanding principal balances thereunder among the Noteholders and the reduced principal balances thereunder after giving effect to the debt forgiveness contemplated hereby are more specifically set forth on Exhibit A hereto (the "Promissory Notes");

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

1. (a) Section 2.2(a) of the Facility Agreement is hereby amended to read as follows:

"Section 2.2. Repayment. (a) Subject to the provisions of Section 2.2(b), the Borrower shall prepay the Notes in four (4) equal installments on each of the second, third, fourth and fifth anniversaries of their issue date, each such installment to be in an aggregate amount for all Notes equal to Two Million Five Hundred Thousand Dollars (\$2,500,000),"

(b) The Noteholders hereby forgive an aggregate of \$10,000,000 of indebtedness owing by Titan to the Noteholders under the Promissory Notes. Accordingly, as of the date hereof, the outstanding principal balances owing by Titan to the Noteholders under the Promissory Notes have been reduced to the amounts set forth on Exhibit A.

(c) Except as otherwise amended by this Section 1 and Section 2 below, the Facility Agreement shall remain in full force and effect in accordance with its terms.

2. If Titan shall at any time receive any Excess Royalty Amounts, then Titan shall make a prepayment of the outstanding principal amount of the Promissory Notes in an amount equal to fifty percent (50%) of such Excess Royalty Amounts actually received, pro rata. For the purposes of this Section 2, the Excess Royalty Amounts shall mean the amount, if any, of the Titan Entitlement (as defined in Section 5(c) of the New Purchase Agreement defined below) distributed to Titan in accordance with the Paying Agent Agreement (as defined below) if any.

3. (a) The definition of Obligations set forth in Section 9 of the Security Agreement (as defined in the Facility Agreement) is hereby amended to read as follows:

“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 (items 1, 2, and 3, the “Note Obligation”); and

(4) the obligations of Titan under the Amended and Restated Royalty Agreement dated November 14, 2011 by and among Deerfield Private Design Fund II, L.P., Deerfield Special Situations Fund, L.P., Horizon Santé TTNP SARL (collectively, the “Deerfield Parties”) and Obligor and the Royalty Purchase Agreement dated November 14, 2011 by and among the Deerfield Parties and Obligor (as each may be amended, modified and supplemented from time to time).

provided, however, that after the Note Obligations have been fulfilled, “Obligations” shall mean only the obligations set forth in Item 4.”

(b) The term “Collateral” provided for in Section (a) of the Security Agreement is hereby amended to add thereto the following:

“; provided, however, that (i) after the Note Obligations have been fulfilled, the Collateral shall mean and extend only to Obligor’s right to receive royalty payments from Novartis Pharma A.G (“Novartis”) pursuant to the Sublicense Agreement between Obligor and Novartis having an effective date of November 20, 1997 (as amended, modified and supplemented from time to time) but excluding that portion of such royalties which are allocated to royalty payments to be made by Obligor to Sanofi (“Sanofi”) pursuant to the Worldwide License Agreement between Obligor and Sanofi having an effective date of December 31, 1996 (as amended, modified and supplemented from time to time) (the “Excluded Collateral”) and (ii) at no time (whether prior to or after payment in full of the Note Obligations shall the term “Collateral” include the Excluded Collateral”).

4. Deerfield shall not exercise the rights granted to it pursuant to Section 6.03(g) of the Paying Agent Agreement (as defined below) unless an Exercise Event has occurred. For the purpose of this Section 4, an Exercise Event shall occur if each of the following events shall

exist: (A) a court of competent jurisdiction shall have determined in a non-appealable order that the true sale contemplated by the New Purchase Agreement should not be characterized as a sale but instead as a transfer of a security interest and (B) (i) Titan commences a proceeding to be adjudicated bankrupt or insolvent, or the consent by it to the commencement of bankruptcy or insolvency proceedings against it, or files a petition or answer or consent seeking reorganization, intervention or other similar relief under any applicable law, or (ii) Titan consents to the filing of any such petition or to the appointment of an intervenor, receiver, liquidator, assignee, trustee, sequestrator (or other similar official) of all or substantially all of its assets; or (iii) there is commenced against Titan 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, for a period of ninety (90) days.

5. The Equity Option Agreement, dated March 15, 2011 made by and between Deerfield TTNP Corporation, DPDI, DSS BVI and Titan is hereby terminated.

6. Titan has delivered to DPDF, DSS Del. and Horizon a Royalty Purchase Agreement, dated the date hereof, in the form attached as Exhibit B (as amended, modified and supplemented from time to time, the "New Purchase Agreement") providing for, among other things, the sale by Titan of the Royalties (as defined therein) to such entities.

7. Titan has delivered to DPDF, DSS Del. and Horizon an Amended and Restated Royalty Agreement dated the date hereof in the form attached as Exhibit C providing for, among other things, the sale by Titan of the Royalties (as defined therein) to such entities.

8. The Parties have entered into a Cash Management Agreement in the form attached hereto as Exhibit D .

9. The Parties have entered into a Paying Agent Agreement in the form attached hereto as Exhibit E (the "Paying Agent Agreement").

10. The provisions of Section 5.1 through 5.8 and Sections 5.10 and 5.13 of the Facility Agreement are hereby incorporated herein by reference, mutatis mutandis.

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.

TITAN PHARMACEUTICALS, INC.

By: /s/ Sunil Bhonsle

Name: Sunil Bhonsle

Title: President

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Capital, L.P., General Partner

By: J. E. Flynn Capital LLC, General Partner

By: /s/ James E. Flynn

Name: James E. Flynn

Title: President

**DEERFIELD PRIVATE DESIGN
INTERNATIONAL II, L.P.**

By: Deerfield Capital, L.P., General Partner

By: J. E. Flynn Capital LLC, General Partner

By: /s/ James E. Flynn

Name: James E. Flynn

Title: President

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Capital, L.P., General Partner

By: J. E. Flynn Capital LLC, General Partner

By: /s/ James E. Flynn

Name: James E. Flynn

Title: President

**DEERFIELD SPECIAL SITUATIONS FUND
INTERNATIONAL LIMITED**

By: /s/ James E. Flynn

Name: James E. Flynn

Title: Director

Agreed as to Section 6

DEERFIELD TTNP CORPORATION

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

EXHIBIT A

<u>Noteholders</u>	<u>Initial/Outstanding Principal Amount</u>	<u>Reduced Principal Amount</u>
Deerfield Private Design Fund II, L.P.	\$ 7,456,000	\$ 3,728,000
Deerfield Private Design International II, L.P.	\$ 8,544,000	\$ 4,272,000
Deerfield Special Situations Fund, L.P.	\$ 1,560,000	\$ 780,000
Deerfield Special Situations Fund International Limited	\$ 2,440,000	\$ 1,220,000
Total	\$ 20,000,000	\$ 10,000,000



Titan Pharmaceuticals, Inc.

FOR IMMEDIATE RELEASE

**TITAN PHARMACEUTICALS ENTERS INTO \$15 MILLION ROYALTY SALE
AGREEMENT WITH DEERFIELD MANAGEMENT**

Funds Support Continued Late-Stage Development of Probuphine for Opioid Dependence

South San Francisco, CA – November 15, 2011 – Titan Pharmaceuticals, Inc. (TTNP.OB) today announced that it has entered into an agreement with Deerfield Management Company, L.P. and certain investment funds managed by it (Deerfield) to sell a substantial portion of the Company's remaining future royalties on the sales of Fanapt® (iloperidone), an atypical antipsychotic approved in the U.S. for the treatment of schizophrenia in adult patients and marketed by Novartis Pharma, AG to Deerfield in exchange for \$5 million in cash, a \$10 million reduction in Titan's outstanding debt to Deerfield and a revised repayment schedule that delays initial payment of principal by one year to April 2013. The proceeds of this transaction will be used to support the ongoing late-stage development of Probuphine™ for the treatment of opioid dependence, the preparation of the New Drug Application (NDA) for Probuphine and for general corporate purposes. Funding is expected to occur on or about November 30, 2011. Additional details of the transaction are provided below.

"This is an important extension of our existing relationship with Deerfield, a leading healthcare investor," said Sunil Bhonsle, President of Titan Pharmaceuticals. "By monetizing our future Fanapt royalty stream, we are able to realize the value of that program in a timely manner to support the near-term activities associated with Probuphine development and NDA preparation while also advancing our ongoing strategic partnership discussions."

Terms of the Financing

On March 16, 2011 Titan announced that it had entered into an agreement with Deerfield to provide Titan with \$20 million in funding through a five-year senior secured credit facility for certain considerations, including payment of a portion of its Fanapt revenue stream, details of which were provided in that [press release](#) and subsequent SEC filings. As of September 30, 2011, the outstanding principal owed by Titan under the credit facility was \$20 million. Under the terms of the new agreement executed on November 14, 2011, Titan is selling a substantial portion of the remaining future royalties on the sales of Fanapt to Deerfield in exchange for \$5 million in cash, a \$10 million reduction in the principal amount owed to Deerfield under the existing facility agreement and a revised principal repayment schedule of \$2.5 million per year for four years commencing in April 2013 to retire the remaining debt of \$10 million. Following the closing of the transaction, Deerfield is entitled to the balance of Titan's portion of the

royalties on Fanapt (5.5 percent to 7.5 percent of net sales, net of the 2.5 percent previously sold to Deerfield) up to a threshold level of net sales of Fanapt (as outlined below) and 40 percent of the royalties above the threshold level. Titan retains 60 percent of the royalties on net sales of Fanapt above the threshold levels, subject to an agreement that half of any such retained royalties will go towards repayment of the Company's outstanding debt to Deerfield.

	2011	2012	2013	2014	2015	2016	2017
Threshold net sales (mil)	all Q4	\$ 70	\$ 85	\$109.25	\$120.75	\$126.5	\$ 46

RBC Capital Markets acted as advisor to Titan for this transaction.

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

Pure Communications
Dan Budwick, 973-271-6085
dan@purecommunicationsinc.com

###