## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3309359

| SUBMISSION TYPE:      | NEW ASSIGNMENT    |
|-----------------------|-------------------|
| NATURE OF CONVEYANCE: | SECURITY INTEREST |

## **CONVEYING PARTY DATA**

| Name                 | Execution Date |
|----------------------|----------------|
| RECRO TECHNOLOGY LLC | 04/10/2015     |

## **RECEIVING PARTY DATA**

| Name:             | ORBIMED ROYALTY OPPORTUNITIES II, LP |
|-------------------|--------------------------------------|
| Street Address:   | 601 LEXINGTON AVE., 54TH FLOOR       |
| Internal Address: | C/O ORBIMED ADVISORS LLC             |
| City:             | NEW YORK                             |
| State/Country:    | NEW YORK                             |
| Postal Code:      | 10022                                |

#### **PROPERTY NUMBERS Total: 17**

| Property Type       | Number   |
|---------------------|----------|
| Patent Number:      | 5834025  |
| Patent Number:      | RE41884  |
| Patent Number:      | 7459283  |
| Patent Number:      | 8323641  |
| Patent Number:      | 8652464  |
| Patent Number:      | 8512727  |
| Patent Number:      | 8992973  |
| Patent Number:      | 6908626  |
| Patent Number:      | 6228398  |
| Patent Number:      | 6902742  |
| Patent Number:      | 6730325  |
| Patent Number:      | 6793936  |
| Application Number: | 14182097 |
| Application Number: | 13941076 |
| Application Number: | 14638984 |
| Application Number: | 11372857 |
| Application Number: | 10827689 |

#### **CORRESPONDENCE DATA**

PATENT REEL: 035403 FRAME: 0288

503262741

**Fax Number:** (202)662-6291

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Phone:** (202)662-6000

**Email:** jaugsburger@cov.com

Correspondent Name: COVINGTON & BURLING LLP

Address Line 1: ONE CITYCENTER, 850 TENTH STREET, NW

Address Line 2: ATTN: PATENT DOCKETING Address Line 4: WASHINGTON, D.C. 20001

| ATTORNEY DOCKET NUMBER: | 034550.00022-NY       |
|-------------------------|-----------------------|
| NAME OF SUBMITTER:      | JENNIFER AUGSBURGER   |
| SIGNATURE:              | /jennifer augsburger/ |
| DATE SIGNED:            | 04/14/2015            |

#### **Total Attachments: 11**

source=Patent-RecroTechnology#page1.tif source=Patent-RecroTechnology#page2.tif source=Patent-RecroTechnology#page3.tif source=Patent-RecroTechnology#page4.tif source=Patent-RecroTechnology#page5.tif source=Patent-RecroTechnology#page6.tif source=Patent-RecroTechnology#page7.tif source=Patent-RecroTechnology#page8.tif source=Patent-RecroTechnology#page9.tif source=Patent-RecroTechnology#page10.tif source=Patent-RecroTechnology#page11.tif

PATENT REEL: 035403 FRAME: 0289

#### PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT, dated as of April 10, 2015 (this "Agreement"), is made by RECRO TECHNOLOGY LLC, a Delaware limited liability company (the "Grantor"), in favor of ORBIMED ROYALTY OPPORTUNITIES II, LP, a Delaware limited partnership (together with its Affiliates, successors, transferees and assignees, the "Lender").

#### WITNESSETH:

WHEREAS, pursuant to a Credit Agreement, dated as of March 7, 2015 (as amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"), by and between (i) the Lender and (ii) (A) prior to consummation of the Merger, Recro Pharma LLC, a Delaware limited liability company ("Recro LLC") and (B) from and after consummation of the Merger, Recro Gainesville LLC, a Massachusetts limited liability company (the "Surviving Entity", and together with Recro LLC, the "Borrower"), the Lender has extended a Commitment to make the Loan to the Borrower;

WHEREAS, in connection with the Credit Agreement, the Grantor and its Affiliates have executed and delivered a Pledge and Security Agreement in favor of the Lender, dated as of April 10, 2015 (as amended, restated, supplemented or otherwise modified from time to time, the "Security Agreement");

WHEREAS, pursuant to the Credit Agreement and pursuant to clause (e) of Section 4.5 of the Security Agreement, the Grantor is required to execute and deliver this Agreement and to grant to the Lender a continuing security interest in all of the Patent Collateral (as defined below) to secure all of the Obligations; and

WHEREAS, the Grantor has duly authorized the execution, delivery and performance of this Agreement;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Grantor agrees, for the benefit of the Lender, as follows:

- Section 1 <u>Definitions</u>. Unless otherwise defined herein or the context otherwise requires, terms used in this Agreement, including its preamble and recitals, have the meanings provided (or incorporated by reference) in the Security Agreement.
- Section 2 <u>Grant of Security Interest</u>. The Grantor hereby grants to the Lender, for its benefit, a continuing security interest in all of the Grantor's right, title and interest in and to the following property, whether now or hereafter existing or acquired by the Grantor (the "<u>Patent</u> Collateral"):
  - (a) all of its letters patent and applications for letters patent throughout the world, including each patent and patent application referred to in <u>Item A</u> of <u>Schedule I</u> attached hereto:

PATENT REEL: 035403 FRAME: 0290

- (b) all reissues, divisions, continuations, continuations-in-part, extensions, renewals and reexaminations of any of the items described in <u>clause (a)</u>;
- (c) all patent licenses and other agreements providing the Grantor with the right to use any items of the type referred to in clauses (a) and (b) above, including each patent license referred to in <a href="Item B">Item B</a> of <a href="Schedule I">Schedule I</a> attached hereto; and
- (d) all Proceeds of, and rights associated with, the foregoing (including licenses, royalties income, payments, claims, damages and Proceeds of infringement suits) and the right to sue third parties for past, present or future infringements of any patent or patent application and for breach or enforcement of any patent license.
- Section 3 <u>Security Agreement</u>. This Agreement has been executed and delivered by the Grantor for the purpose of registering the security interest of the Lender in the Patent Collateral with the United States Patent and Trademark Office. The security interest granted hereby has been granted in furtherance of, and not in limitation of, the security interest granted to the Lender for its benefit under the Security Agreement. The Security Agreement (and all rights and remedies of the Lender thereunder) shall remain in full force and effect in accordance with its terms.
- Section 4 Release of Liens. Upon (i) the Disposition of Patent Collateral in accordance with the Credit Agreement or (ii) the occurrence of the Termination Date, the security interests granted herein shall automatically terminate with respect to (A) such Patent Collateral (in the case of clause (i)) or (B) all Patent Collateral (in the case of clause (ii)). Upon any such Disposition or termination, the Lender will, at the Grantor's sole expense, deliver to the Grantor, without any representations, warranties or recourse of any kind whatsoever, all Patent Collateral held by the Lender hereunder, and execute and deliver to the Grantor such documents as the Grantor shall reasonably request to evidence such termination.
- Section 5 Acknowledgment. The Grantor does hereby further acknowledge and affirm that the rights and remedies of the Lender with respect to the security interest in the Patent Collateral granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which (including the remedies provided for therein) are incorporated by reference herein as if fully set forth herein.
- Section 6 <u>Loan Document</u>. This Agreement is a Loan Document executed pursuant to the Credit Agreement and shall (unless otherwise expressly indicated herein) be construed, administered and applied in accordance with the terms and provisions thereof, including Article X thereof.
- Section 7 <u>Effective</u>. This Agreement shall become effective when a counterpart hereof executed by the Grantor, shall have been received by the Lender. Delivery of an executed counterpart of a signature page to this Agreement by email (e.g. "pdf" or "tiff") or telecopy shall be effective as delivery of a manually executed counterpart of this Agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the Grantor hereto has caused this Agreement to be duly executed and delivered by its Authorized Officer as of the date first above written.

**RECRO TECHNOLOGY LLC** 

Signature Page to Patent Security Agreement

# Item A. Patents

# **Issued Patents**

| Country        | Patent No.        | Issue Date   | Inventors   | Title  |
|----------------|-------------------|--------------|---|--|
| US             | 5,834,025         | 10-Nov-1998  | Lawrence de<br>Garavilla, Elaine<br>M. Liversidge,<br>Gary G.<br>Liversidge | Reduction of intravenously administered nanoparticulate-formulation-induced adverse physiological reactions  |
| US             | RE41,884 <u>E</u> | 26-Oct-2010  | Lawrence de<br>Garavilla, Elaine<br>M. Liversidge,<br>Gary G.<br>Liversidge | Reduction of intravenously administered nanoparticulate-formulation-induced adverse physiological reactions  |
| CA             | 2,232,879         | 02-Mar-2004  | Lawrence de<br>Garavilla, Elaine<br>M. Liversidge,<br>Gary G.<br>Liversidge | Reduction Of Intravenously Administered Nanoparticulate-Formulation- Induced Adverse Physiological Reactions |
| US             | 7,459,283         | 02-Dec-2008  | Christian F.<br>Wertz, Niels P.<br>Ryde                                     | Nanoparticulate compositions having lysozyme as a surface stabilizer   |
| US             | 8,323,641         | Dec 4, 2012  | Christian F.<br>Wertz, Niels P.<br>Ryde                                     | Nanoparticulate compositions having lysozyme as a surface stabilizer   |
| US             | 8,652,464         | Feb 18, 2014 | Christian F.<br>Wertz, Niels P.<br>Ryde                                     | Method of treatment using nanoparticulate compositions having lysozyme as a surface stabilizer               |
| Austria        | EP1471887         | 21-Apr-2010  | Christian F.<br>Wertz, Niels P.<br>Ryde                                     | Nanoparticulate compositions having lysozyme as a surface stabilizer   |
| Belgium        | EP1471887         | 21-Apr-2010  | Christian F.<br>Wertz, Niels P.<br>Ryde                                     | Nanoparticulate compositions having lysozyme as a surface stabilizer   |
| Bulgaria       | EP1471887         | 21-Apr-2010  | Christian F.<br>Wertz, Niels P.<br>Ryde                                     | Nanoparticulate compositions having lysozyme as a surface stabilizer   |
| Canada         | 2,475,092         | 01-May-2012  | Christian F.<br>Wertz, Niels P.<br>Ryde                                     | Nanoparticulate compositions having lysozyme as a surface stabilizer   |
| Czech Republic | EP1471887         | 21-Apr-2010  | Christian F.<br>Wertz, Niels P.<br>Ryde                                     | Nanoparticulate compositions having lysozyme as a surface stabilizer   |

PATENT REEL: 035403 FRAME: 0293

| Country         | Patent No. | Issue Date  | Inventors       | Title                        |
|-----------------|------------|-------------|-----------------|------------------------------|
| Denmark         | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| European Patent | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
| Convention      |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Finland         | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            | 1           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| France          | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Germany         | 60332212   | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
| •               |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Greece          | 3072191    | 11-Jun-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            |             | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Hungary         | E008527    | 28-Dec-2010 | Christian F.    | Nanoparticulate compositions |
| 0,              |            |             | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Ireland         | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Italy           | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
| •               |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Liechtenstein   | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Netherlands     | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            |             | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Portugal        | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
| C               |            | ·           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Slovakia        | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            | ,           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Spain           | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
| •               |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Sweden          | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            | •           | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| Switzerland     | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
|                 |            |             | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |
| United          | EP1471887  | 21-Apr-2010 | Christian F.    | Nanoparticulate compositions |
| Kingdom         |            | ,           | Wertz, Niels P. | having lysozyme as a surface |
| Ÿ               |            |             | Ryde            | stabilizer                   |
| Japan           | 4,598,399  | 01-Oct-2010 | Christian F.    | Nanoparticulate compositions |
| •               | · *-       |             | Wertz, Niels P. | having lysozyme as a surface |
|                 |            |             | Ryde            | stabilizer                   |

| Country | Patent No. | Issue Date  | Inventors  | Title                                     |
|---------|------------|-------------|--|---|
| US      | 8,512,727  | 20-Aug-2013 | Eugene R. Cooper; Tuula Ryde; John Pruitt, Laura Kline             | Nanoparticulate Meloxicam Formulations    |
| CA      | 2,517,679  | 10-Apr-2012 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam<br>Formulations |
| JP      | 4,891,774  | 11-Dec-2011 | Eugene R. Cooper; Tuula Ryde; John Pruitt, Laura Kline             | Nanoparticulate Meloxicam<br>Formulations |
| JP      | 5,548,092  | 11-Dec-2011 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam<br>Formulations |
| HU      | E005977    | 13-May-2009 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam<br>Formulations |
| ВЕ      | EP1617816  | 13-May-2009 | Eugene R. Cooper; Tuula Ryde; John Pruitt, Laura Kline             | Nanoparticulate Meloxicam<br>Formulations |
| FR      | EP1617816  | 13-May-2009 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam<br>Formulations |
| DE      | EP1617816  | 13-May-2009 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam<br>Formulations |
| IE .    | EP1617816  | 13-May-2009 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam Formulations    |
| ΙΤ      | EP1617816  | 13-May-2009 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam<br>Formulations |

| Country   | Patent No. | Issue Date  | Inventors  | Title  |
|-----------|------------|-------------|--|--|
| LI        | EP1617816  | 13-May-2009 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam<br>Formulations  |
| СН        | EP1617816  | 13-May-2009 | Eugene R. Cooper; Tuula Ryde; John Pruitt, Laura Kline             | Nanoparticulate Meloxicam Formulations   |
| GB        | EP1617816  | 13-May-2009 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline | Nanoparticulate Meloxicam<br>Formulations  |
| ES        | EP1617816  | 13-May-2009 | Eugene R. Cooper; Tuula Ryde; John Pruitt, Laura Kline             | Nanoparticulate Meloxicam<br>Formulations  |
| EPC       | EP1617816  | 13-May-2009 | Eugene R. Cooper; Tuula Ryde; John Pruitt, Laura Kline             | Nanoparticulate Meloxicam Formulations   |
| <u>US</u> | 8,992,973  | 31-Mar-2015 | Gurvinder Singh<br>Rekhi; Richard<br>Sidwell; Sharon<br>Hamm       | Controlled Release Compositions Comprising A Combination Of Isosorbide Dinitrate And Hydralazine Hydrochloride |
| US        | 6,908,626  | 21-Jun-2005 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy                           | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics                  |
| CA        | 2,463,495  | 24-May-2011 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy                           | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics                  |
| DE        | 60222160.9 | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy                           | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics                  |
| AT        | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy                           | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics                  |
| BE        | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy                           | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics                  |
| BU        | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy                           | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics                  |

| Country | Patent No. | Issue Date   | Inventors       | Title                    |
|---------|------------|--------------|-----------------|--------------------------|
| CY      | EP1443912  | 07-May-2010  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              |                 | Release Characteristics  |
| CZ      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              |                 | Release Characteristics  |
| DK      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              |                 | Release Characteristics  |
| EE      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         | 2          |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              | D. Raday        | Release Characteristics  |
| EPO     | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
| LIO     | E1 (443)12 | 27-11ug-2007 | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              | B. Ruddy        | Release Characteristics  |
| Fl      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
| 1 1     | LI 1443912 | 29-Aug-2007  | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              | B. Ruddy        | Release Characteristics  |
| ГВ      | EP1443912  | 20 4112 2007 | Eugana D        | Compositions Having A    |
| FR      | EP1443912  | 29-Aug-2007  | Eugene R.       | Combination Of Immediate |
|         |            |              | Cooper; Stephen | Release And Controlled   |
|         |            |              | B. Ruddy        | 1                        |
| CD      | ED1442012  | 20 1 2007    | Francis D       | Release Characteristics  |
| GR      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
| 15      |            | 20 1 2007    |                 | Release Characteristics  |
| 1E      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         | 551442012  |              | -               | Release Characteristics  |
| 1T      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              |                 | Release Characteristics  |
| LU      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              | <u> </u>        | Release Characteristics  |
| MC      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              |                 | Release Characteristics  |
| NL      | EP1443912  | 29-Aug-2007  | Eugene R.       | Compositions Having A    |
|         |            |              | Cooper; Stephen | Combination Of Immediate |
|         |            |              | B. Ruddy        | Release And Controlled   |
|         |            |              |                 | Release Characteristics  |

| Country | Patent No. | Issue Date  | Inventors   | Title   |
|---------|------------|-------------|---|---|
| PT      | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy  | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics |
| SK      | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy  | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics |
| ES      | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy  | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics |
| SE      | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy  | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics |
| СН      | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy  | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics |
| TR      | EP1443912  | 29-Aug-2007 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy  | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics |
| GB      | EP1443912  | 29-Aug-2007 | Eugene R. Cooper; Stephen B. Ruddy  | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics |
| US      | 6,228,398  | 08-May-2001 | John G. Devane;<br>Paul Stark; Niall<br>M.M. Fanning                              | MULTIPARTICULATE<br>MODIFIED RELEASE<br>COMPOSITION   |
| US      | 6,902,742  | 07-Jun-2005 | John G. Devane;<br>Paul Stark; Niall<br>M.M. Fanning;<br>Gurvinder Singh<br>Rekhi | MULTIPARTICULATE<br>MODIFIED RELEASE<br>COMPOSITION   |
| US      | 6,730,325  | 04-May-2004 | John G. Devane;<br>Paul Stark; Niall<br>M.M. Fanning;<br>Gurvinder Singh<br>Rekhi | MULTIPARTICULATE<br>MODIFIED RELEASE<br>COMPOSITION   |
| US      | 6,793,936  | 21-SEP-2004 | John G. Devane;<br>Paul Stark; Niall<br>M.M. Fanning                              | MULTIPARTICULATE<br>MODIFIED RELEASE<br>COMPOSITION   |
| CA      | 2,348,871  | 14-Apr-2009 | John G. Devane;<br>Paul Stark; Niall<br>M.M. Fanning                              | MULTIPARTICULATE<br>MODIFIED RELEASE<br>COMPOSITION   |

# Pending Patent Applications

| Country | Application No. | Filing Date | Inventors | Title |
|---------|-----------------|-------------|-----------|-------|
|         |                 |             |           |       |

| Country | Application No. | Filing Date | Inventors   | Title  |  |
|---------|-----------------|-------------|---|--|--|
| EPO     | 10181619.7      | 29-Sep-2010 | Lawrence de<br>Garavilla, Elaine<br>M. Liversidge,<br>Gary G.   | Reduction of intravenously administered nanoparticulate-formulation-induced adverse physiological reactions    |  |
| US      | 14/182,097      | 17 Feb 2014 | Liversidge Christian F. Wertz, Niels P. Ryde  | Nanoparticulate compositions having lysozyme as a surface stabilizer   |  |
| US      | 13/941,076      | 12-Jul-2013 | Eugene R. Cooper; Tuula Ryde; John Pruitt, Laura Kline  | Nanoparticulate Meloxicam<br>Formulations  |  |
| EPO     | 08006465.2      | 27-Feb-2004 | Eugene R.<br>Cooper; Tuula<br>Ryde; John<br>Pruitt, Laura<br>Kline  | Nanoparticulate Meloxicam<br>Formulations  |  |
| US      | 13/606,915-4    | 07-Sep-2012 | Gurvinder Singh<br>Rekhi; Richard<br>Sidwell; Sharon<br>Hamm  | Controlled Release Compositions Comprising A Combination Of Isosorbide Dinitrate And Hydralazine Hydrochloride |  |
| US      | 14/638,984      | 04-Mar-2015 | Gurvinder Singh<br>Rekhi; Richard<br>Sidwell; Sharon<br>Hamm  | Controlled Release Compositions Comprising A Combination Of Isosorbide Dinitrate And Hydralazine Hydrochloride |  |
| CA      | 2,627,951       | 26-Oct-2006 | Gurvinder Singh<br>Rekhi; Richard<br>Sidwell; Sharon<br>Hamm  | Controlled Release Compositions Comprising A Combination Of Isosorbide Dinitrate And Hydralazine Hydrochloride |  |
| EPO     | 06826637.8      | 26-Oct-2006 | Gurvinder Singh<br>Rekhi; Richard<br>Sidwell; Sharon<br>Hamm  | Controlled Release Compositions Comprising A Combination Of Isosorbide Dinitrate And Hydralazine Hydrochloride |  |
| JÞ      | 2013-126534     | 11-Oct-2002 | Eugene R.<br>Cooper; Stephen<br>B. Ruddy  | Compositions Having A Combination Of Immediate Release And Controlled Release Characteristics                  |  |
| US      | 11/372,857      | 10-Mar-2006 | John G. Devane;<br>Paul Stark; Niall<br>M. M. Fanning;<br>Gurvinder Singh<br>Rekhi; Scott A.<br>Jenkins; Gary<br>Liversidge | Multiparticulate Modified<br>Release Composition   |  |

<sup>&</sup>lt;sup>4</sup>-This case is scheduled to issue as a patent on March 31, 2015 U.S. PATENT NO. 8,992,973

| Country | Application No. | Filing Date | Inventors   | Title  |
|---------|-----------------|-------------|---|--|
| US      | 10/827,689      | 19-Apr-2004 | John G. Devane;<br>Paul Stark; Niall<br>M. M. Fanning;<br>Gurvinder Singh | Multiparticulate Modified<br>Release Composition |
|         |                 |             | Rekhi; Scott A. Jenkins;  |  |

# Patent Applications in Preparation

Expected

Country Docket No.

Filing Date

Inventor(s)

<u>Title</u>

none

# Item B. Patent Licenses

| <u>Territory</u> | Licensor | <u>Licensee</u> | <b>Effective</b> | Expiration  | Subject Matter      |
|------------------|----------|-----------------|------------------|-------------|---------------------|
|                  |          |                 | <u>Date</u>      | <u>Date</u> |                     |
| Worldwide        | Alkermes | RECRO           | TBD              | TBD         | Controlled Release, |
|                  | Pharma   | TECHNOLOGY      |                  |             | Abuse Deterrent and |
|                  | Ireland  | LLC             |                  |             | Nanocrystal         |
|                  | Limited  |                 |                  |             | technology          |

9

RECORDED: 04/14/2015