Form PTO-1595 (Rev. 06-12) OMB No. 0651-0027 (exp. 04/30/2015)

U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office

| RECORDATION FO | RECORDATION FORM COVER SHEET | | | | | |
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| PATENTS ONLY | | | | | | |
| To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below. | | | | | | |
| 1. Name of conveying party(ies) | 2. Name and address of receiving party(ies) | | | | | |
| | Name: Theravance Biopharma R&D IP, LLC | | | | | |
| Theravance, Inc. | Internal Address: | | | | | |
| Additional name(s) of conveying party(ies) attached? Yes No 3. Nature of conveyance/Execution Date(s): Execution Date(s) June 1, 2014 Assignment Merger Security Agreement Change of Name Joint Research Agreement Government Interest Assignment Executive Order 9424, Confirmatory License Other | Street Address: 901 Gateway Boulevard City: South San Francisco State: California Country: USA Zip: 94080 Additional name(s) & address(es) attached? Yes No | | | | | |
| | document serves as an Oath/Declaration (37 CFR 1.63). | | | | | |
| A. Patent Application No.(s) 60903110, 14059755 | B. Patent No.(s) 7834185, 8378121 and 8592453 ached? Yes No | | | | | |
| 5. Name and address to whom correspondence | 6. Total number of applications and patents | | | | | |
| concerning document should be mailed: | involved: 5 | | | | | |
| Name: Jeffrey A. Hagenah | 7. Total fee (37 CFR 1.21(h) & 3.41) \$200 | | | | | |
| Internal Address: Patent Department | | | | | | |
| Theravance Biopharma US, Inc. | Authorized to be charged to deposit account | | | | | |
| Street Address: 901 Gateway Boulevard | Enclosed | | | | | |
| | None required (government interest not affecting title) | | | | | |
| City: South San Francisco | 8. Payment Information | | | | | |
| State: California Zip: 94080 | | | | | | |
| Phone Number: (650) 808-6406 | 500244 | | | | | |
| Docket Number: P-228 | Deposit Account Number 500344 | | | | | |
| Email Address: patent@theravance.com | Authorized User Name Jeffrey A. Hagenah | | | | | |
| 9. Signature: Manual China | June 3, 2014 | | | | | |
| 9. Signature: There Signature | Date | | | | | |
| Shelley Eberle, Reg. No. 31,411 | Total number of pages including cover sheet, attachments, and documents: | | | | | |
| Name of Person Signing sheet, attachments, and documents: Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to: | | | | | | |
| Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450 | | | | | | |

PATENT REEL: 033115 FRAME: 0497

Attorney Docket No. P-228

Patent Assignment

WHEREAS, Theravance, Inc., a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 951 Gateway Boulevard, South San Francisco, California 94080 (the "Assignor"), is the sole owner of the patents and patent applications listed in EXHIBIT A (such patents and patent applications and the inventions set forth therein are collectively the "Assigned Patents");

WHEREAS, Theravance Biopharma R&D IP, LLC, a limited liability company duly organized under and pursuant to the laws of Delaware and having its principal place of business at 901 Gateway Boulevard, South San Francisco, California 94080 (the "Assignee"), is desirous of acquiring Assignor's entire right, title and interest in and to the Assigned Patents, and in and to any subsequent patent applications and patents filed or granted thereon or therefrom, and Assignor is willing to assign its rights, title, and interest with respect thereto to the Assignee on the terms hereinafter set forth;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignor does hereby sell, assign, transfer, set over and relinquishes exclusively unto the Assignee, its successors, legal representatives and assigns, Assignor's entire right, title and interest in and to: the Assigned Patents including, to the extent of Assignor's rights, the right to file patent applications on inventions set forth in the Assigned Patents; the right to claim priority to any of the Assigned Patents; the entire right, title and interest in and to any subsequent U.S. and foreign patent applications and patents claiming priority to any of the Assigned Patents, and in and to any U.S. and foreign patent applications and patents that claim priority to a patent application or patent arising from the Assigned Patents; any U.S. and foreign patents that may be granted on and from any of the Assigned Patents; any applications, divisionals, continuations, continuations-in-part, reexaminations, reissues, registrations, renewals, revalidations, substitutions, utility models, petty patents, extensions, and supplementary protection certificates that may be filed or granted on or for any of the Assigned Patents; all accrued causes of action for infringement of any of the foregoing; and all rights to and for the Assigned Patents under the Paris Convention for the Protection of Industrial Property; the same to be held and enjoyed by the Assignee, for its own use and behalf and for the use and behalf of its successors, legal representatives and assigns, to the full end of the term of the Assigned Patents and any such patents that may be granted thereon or therefrom as fully and entirely as if the same would have been held and enjoyed by the Assignor had this sale and assignment not been made.

REEL: 033115 FRAME: 0498

AND for the same consideration, the Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives and assigns, that the Assignor has not executed and will not execute any assignment, sale, agreement or encumbrance in conflict with this assignment.

AND for the same consideration, the Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives and assigns that, at the Assignee's expense and reasonable request, the Assignor will take action and execute documents necessary to perfect the interest assigned herein.

AND for the same consideration, the Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives and assigns that whenever counsel for the Assignee, or the counsel for its successors, legal representatives and assigns, shall advise that any proceeding, filing or other legal action in connection with the Assigned Patents or any patent applications and patents resulting therefrom is lawful and desirable, Assignor will, to the extent reasonable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of the Assigned Patents and patent applications and patents resulting therefrom, without charge to the Assignor, its successors, legal representatives and assigns, but at the cost and expense of the Assignee, its successors, legal representatives and assigns.

AND the Assignor hereby requests the Director of the United States Patent and Trademark Office, and all foreign patent offices, to issue any and all patents resulting from the Assigned Patents or from any patent applications filed thereon or therefrom to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives and assigns.

IN WITNESS WHEREOF, the Assignor hereby has executed this assignment on this 1st day of 2014, at South San Francisco, California, USA.

Theravance, Inc. (Assignor)

Vice President & Chief Patent Counsel

& Assistant Secretary

Theravance, Inc.
951 Gateway Blvd.
South San Francisco, CA 94080
USA

Attorney Docket No. P-228

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

STATE OF CALIFORNIA COUNTY OF SAN MATEO

On _______, 2014, before me, Maria Chuakay, Notary Public, personally appeared Jeffrey A. Hagenah, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Mana Churtay (Seal)
Notary Public

MARIA CHUAKAY
Commission # 2050270
Notary Public - California
San Mateo County
My Comm. Expires Dec 24, 2017

Attorney Docket No. P-228

EXHIBIT A

| Docket No. | Country | Sub Case | Status | Application Number | Filing Date | Patent Number | Grant Date |
|---------------|---------|-------------|-----------|-----------------------|----------------|------------------|----------------|
| P-228 | AU | 01 | Granted | 2008218962 | 02/21/2008 | 2008218962 | 06/25/2013 |
| P-228 | BR | 01 | Pending | 0807615-4 | 02/21/2008 | | |
| P-228 | CA | 01 | Pending | 2,675,942 | 02/21/2008 | | |
| P-228 | CN | 01 | Pending | 200880005529.5 | 02/21/2008 | | |
| P-228 | EP | 01 | Pending | 08 725 911.5 | 02/21/2008 | | ************** |
| P-228 | HK | 01 | Pending | 10103348.1 | 02/21/2008 | | |
| P-228 | IL | 01 | Pending | 199922 | 02/21/2008 | | |
| P-228 | IN | 01 | Pending | 4811/DELNP/200 9 | 02/21/2008 | | |
| P-228 | JP | 01 | Granted | 2009-550918 | 02/21/2008 | 5528817 | 04/25/2014 |
| P-228 | JP | 02 | Pending | 2014-33710 | 02/25/2014 | | |
| P-228 | KR | 01 | Pending | 2009-7019812 | 02/21/2008 | | |
| P-228 | MX | 01 | Granted | MX/a/2009/0085 27 | 02/21/2008 | 301802 | 07/30/2012 |
| P-228 | RU | 01 | Granted | 2009135389 | 02/21/2008 | 2452728 | 06/10/2012 |
| P-228 | SG | 01 | Granted | 200905187-1 | 02/21/2008 | 154606 | 03/30/2012 |
| P-228 | US | 01 | Granted | 12/070,780 | 02/21/2008 | 7,834,185 | 11/16/2010 |
| P-228 | US | 02 | Granted | 12/898,858 | 10/06/2010 | 8,592,453 | 11/26/2013 |
| P-228 | US | 03 | Granted | 12/898,861 | 10/06/2010 | 8,378,121 | 02/19/2013 |
| P-228 | US | 04 | Pending | 14/059,755 | 10/22/2013 | | |
| P-228 | US | PR1 | Expired | 60/903,110 | 02/23/2007 | | |
| P-228 | WO | | Nat Phase | PCT/US2008/002 321 | 02/21/2008 | | |

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| | | | | | | |
| | Fax. No. | (571) 273-0140 | | | | |
| From: | Theravance Biopharma US, Inc. | | | | | |
| | Attorney: | Shelley Eberle | | | | |
| | Reg. No. : | 31,411 | | | | |
| | Customer No.: | 27038 | | | | |
| | Address: | 901 Gateway Boulevard | | | | |
| | | South San Francisco, California 94080 | | | | |
| | Telephone No.: | (650) 808-4010 | | | | |
| | Fax. No.: | (650) 808-6078 | | | | |
| Date: | June 3, 2014 | | | | | |
| No. of Pages : | 6 (including this page) | | | | | |
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| I hereby certify that this correspondence is being transmitted via Facsimile Number (571) 273-0140 to the United States Patent and Trademark Office, on the date indicated above. | | | | | | |
| Signature : | Lket Chustay | | | | | |
| Printed Name : | Lhet Chuakay | | | | | |

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PATENT REEL: 033115 FRAME: 0502