

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4059144

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	CALIXA THERAPEUTICS, INC	06/10/2015
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	MERCK SHARP & DOHME CORP.	
<b>Street Address:</b>	126 EAST LINCOLN AVENUE	
<b>City:</b>	RAHWAY	
<b>State/Country:</b>	NEW JERSEY	
<b>Postal Code:</b>	07065	
<b>PROPERTY NUMBERS Total: 1</b>		
	<b>Property Type</b>	<b>Number</b>
	Application Number:	14856075
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>	(732)594-4720	
<i>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.</i>		
<b>Phone:</b>	732-594-1249	
<b>Email:</b>	US_EFS@MERCK.COM	
<b>Correspondent Name:</b>	DIANNE PECORARO	
<b>Address Line 1:</b>	126 EAST LINCOLN AVENUE	
<b>Address Line 4:</b>	RAHWAY, NEW JERSEY 07065	
<b>ATTORNEY DOCKET NUMBER:</b>	24048-US-CIP	
<b>NAME OF SUBMITTER:</b>	PIA PARAS-SANJURJO	
<b>SIGNATURE:</b>	/PIA PARAS-SANJURJO/	
<b>DATE SIGNED:</b>	09/20/2016	
<b>Total Attachments: 7</b>		
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## ASSIGNMENT

WHEREAS, **CALIXA THERAPEUTICS, INC.**, (the “**Assignor**”) a corporation duly organized under the laws of Delaware, and having offices at 65 Hayden Avenue, Lexington, Massachusetts 02421, is the owner of new and useful inventions described in granted patents and pending patent applications held by Assignor.

WHEREAS, **MERCK SHARP & DOHME CORP.**, a company organized and existing under the laws of the state of New Jersey, having offices at 126 East Lincoln Avenue, Rahway, New Jersey, 07065, USA (the “**Assignee**”) is desirous of acquiring all rights, title and interests in and to said inventions and in and to any and all patents which may be granted for or upon said inventions(s) anywhere in the world.

NOW THEREFORE, for good and valuable consideration the receipt and sufficiency of which are hereby acknowledged, Assignor hereby sells, assigns, transfers and sets over to Assignee, its lawful successor and assigns, its entire right, title and interest in and to the inventions described in any and all granted patents and pending patent applications held (solely or jointly) by Assignor, including those granted patents and pending patent applications set forth in the attached Schedule A (the “**Inventions**”), and including any and all rights relating thereto that may arise at law, all rights of action resulting from prior infringement or other unauthorized use thereof, any and all applications corresponding to the Inventions worldwide, whether in the form of divisions, continuations, re-examinations, re-issues and extensions thereof, any and all letters patent and like industrial property registrations that may issue, be granted or result from said corresponding applications for the Inventions worldwide, and any and all rights of priority exercisable in any jurisdiction resulting from the filing of the patent application(s) associated with Inventions, the said corresponding applications and any previously filed applications in respect of the Inventions under international conventions, treaties or otherwise;

AND ASSIGNOR, on behalf of itself and its successors, assigns, nominees, or other legal representatives, does hereby covenant and agree to perform all lawful acts and duties and to execute and deliver without further consideration such further lawful assignments, instruments, assurances, applications and other documents as may reasonably be required by said Assignee, or

by its successors, assigns, nominees, or other legal representatives, to file patent application(s) associated with Inventions, obtain patents for the Inventions and vest or secure the same in Assignee, and in Assignee's successors, assigns, nominees or other legal representatives.

AND ASSIGNOR also agrees to execute specific confirmatory assignments and other supplementary documents (as may be required) in favor of the Assignee for each of the countries in which the Inventions have been granted patents or applications therefor are pending in order to effectuate recordal of the assignment of the aforesaid Inventions on the Registers of the countries listed in Schedule A.

AND ASSIGNOR hereby appoints Assignee as their true and lawful attorneys-in-fact to prepare, execute, sign, acknowledge and file all documents, certificates or other instruments which the attorney-in-fact deems appropriate to perfect legal title in and to the Inventions in Assignee's name. Said power of attorney is irrevocable and is coupled with an interest, and, to the extent permitted by applicable law, shall survive the dissolution of the Assignor. Assignor shall be bound by any representations made by the attorney-in-fact acting in good faith pursuant to this power of attorney, and Assignor hereby waives any and all defenses which may be available to them to contest, negate or disavow the action of the attorney-in-fact taken in good faith under said power of attorney.

AND ASSIGNOR does hereby authorize any official whose duty it is to grant patents or industrial property registrations, to grant patents associated with Inventions to Assignee, and to Assignee's successors, assigns, nominees or other legal representatives.

This assignment is to have effect as of June 10, 2015.

IN WITNESS WHEREOF, Assignor has by its authorized signing officer executed this Assignment, and Assignee has by its authorized officer accepted this Assignment.

**CALIXA THERAPEUTICS, INC.**

Executed this 10<sup>th</sup> day of June, 2015.

Signature: Mark McDonough

Name Mark McDonough

Title: Senior Vice President + Treasurer

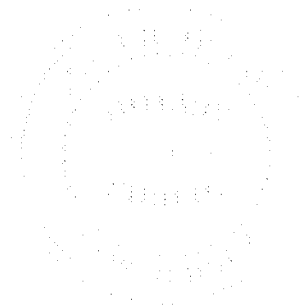
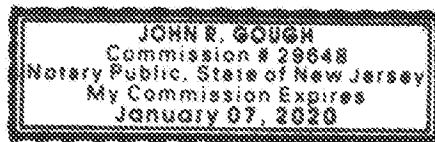
**ACKNOWLEDGEMENT**

State of New Jersey )  
County of Union ) s.s.:

On this 10<sup>th</sup> day of June, 2015, personally appeared before me Mark McDonough to me known, and known by me to be the same person(s) described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal)

John R. Gough  
Notary Public



**MERCK SHARP & DOHME CORP.**

Executed this 10th day of June, 2015.

Signature: [Signature]

Name Rita Karachun

Title: President

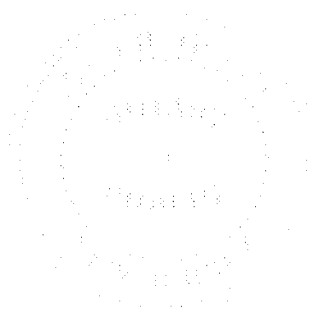
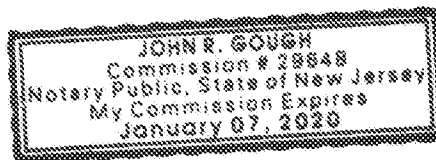
**ACKNOWLEDGEMENT**

State of New Jersey )  
County of Union ) s.s.:  
)

On this 10th day of June, 2015, personally appeared before me Rita Karachun to me known, and known by me to be the same person(s) described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal)

[Signature]  
Notary Public



SCHEDULE A  
PATENTS AND PATENT APPLICATIONS  
HELD BY ASSIGNOR

Country	Application Date	Application Number	Grant Date	Patent Number
Australia	09/27/2013	2013323280		
Australia	09/09/2014	2014233637		
Australia	09/26/2014	2014233633		
Australia	02/06/2015	2015200599		
Australia	03/14/2014	2014227660	02/19/2015	2014227660
Brazil	09/27/2013	BR 11 2015 006868 5		
Canada	09/27/2013	2886402		
Canada	09/07/2012	2848012		
China	09/27/2013	PCT/US13/062256		
China	09/07/2012	201280050039.3		
Eurasian Patent Office	09/07/2012	201490590		
European Patent Office	09/27/2013	13840550.1		
European Patent Office	12/22/2014	14199792.4		
India	09/27/2013	3113/DELNP/2015		
Japan	09/27/2013	PCT/US13/062256		
Japan	09/07/2012	2014-529902		
Korea	09/27/2013	10-2015-7009612		
Mexico	09/27/2013	MX/a/2015/004039		
Mexico	09/07/2012	MX/a/2014/002758		
New Zealand	09/12/2014	631761		
New Zealand	03/14/2014	700372		
Russia	09/27/2013	2015115711		
United States	02/14/2014	14/181041		
United States	09/27/2012	13/628742	07/02/2013	8476425
United States	03/14/2013	13/828534	04/01/2014	8685957
United States	11/14/2014	14/541890		
United States	03/28/2014	14/228401		
United States	04/11/2014	14/250879		
United States	03/07/2014	14/200383		
United States	09/27/2013	14/431878		
United States	03/14/2014	14/211465		
United States	03/14/2014	14/211526	04/14/2015	9006421
United States	10/22/2014	14/521421		
United States	05/23/2014	14/286392		
United States	09/09/2014	14/481496		
United States	03/14/2014	14/211216		

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Country	Application Date	Application Number	Grant Date	Patent Number
United States	03/14/2014	14/211229		
United States	08/19/2014	62/039137		
United States	12/30/2014	62/097861		
United States	12/18/2014	62/093775		
United States	08/18/2014	62/038468		
United States	09/15/2014	62/050540		
United States	09/08/2014	62/047396		
United States	02/04/2015	62/111840		
United States	08/15/2014	62/037676		
United States	10/20/2014	62/065993		
United States	01/05/2015	62/099963		
United States	11/05/2014	62/075542		
United States	12/18/2014	62/094058		
United States	12/19/2014	62/094928		
United States	09/17/2014	62/051458		
United States	06/20/2014	62/014884		
United States	08/15/2014	62/037722		
United States	09/17/2014	62/051469		
United States	10/13/2014	62/063061		
United States	11/06/2014	62/076091		
United States	01/05/2015	62/099910		
United States	09/03/2014	62/045255		
United States	11/05/2014	62/075511		
United States	12/30/2014	62/097857		
United States	09/17/2014	62/051790		
United States	10/30/2014	62/072643		
United States	10/20/2014	62/066003		
United States	10/29/2014	62/072009		
United States	12/23/2014	62/095942		
United States	09/08/2014	62/047577		
United States	12/18/2014	62/093777		
United States	05/28/2014	14/289224	12/09/2014	8906898
United States	05/28/2014	14/289251		
United States	09/07/2012	13/607138		
United States	10/13/2014	14/512608		
United States	11/21/2014	14/550125		
United States	03/14/2014	14/213997		
United States	03/14/2014	14/212625		



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Country	Application Date	Application Number	Grant Date	Patent Number
United States	03/14/2014	14/214260		
United States	05/22/2014	14/285185	03/03/2015	8968753
United States	11/03/2014	14/531352		
United States	10/24/2014	14/522893		
United States	04/11/2014	14/251372		
United States	04/11/2014	14/251381		
United States	03/14/2014	14/213532		
United States	03/14/2014	14/214221		
United States	03/14/2014	14/214417		
United States	03/14/2014	14/214367		
United States	03/14/2014	14/212781		
United States	03/14/2014	14/212590		
United States	02/20/2015	62/118572		
United States	09/17/2014	62/051806		
United States	09/17/2014	62/051842		
United States	09/17/2014	62/051859		
United States	09/17/2014	62/051820		
Patent Cooperation Treaty	03/14/2014	PCT/US14/027706		
Patent Cooperation Treaty	03/14/2014	PCT/US14/028571		
Patent Cooperation Treaty	09/09/2014	PCT/US14/054757		
Patent Cooperation Treaty	09/25/2014	PCT/US14/057343		
Patent Cooperation Treaty	03/14/2014	PCT/US14/028642		