PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4470138

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

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------------|----------------|
| IAN M. BELL | 10/28/2011 |
| MARK E. FRALEY | 10/28/2011 |
| STEVEN N. GALLICCHIO | 10/28/2011 |
| ANTHONY GINNETTI | 10/28/2011 |
| HELEN J. MITCHELL | 10/31/2011 |
| DANIEL V. PAONE | 10/28/2011 |
| DONNETTE D. STAAS | 10/31/2011 |
| CHENG WANG | 10/28/2011 |
| C.BLAIR ZARTMAN | 10/28/2011 |
| HEATHER E. STEVENSON | 10/28/2011 |

RECEIVING PARTY DATA

| Name: | MERCK SHARP & DOHME CORP. | |
|-----------------|---------------------------|--|
| Street Address: | 126 E. LINCOLN AVENUE | |
| City: | RAHWAY | |
| State/Country: | NEW JERSEY | |
| Postal Code: | 07065 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15293569 |

CORRESPONDENCE DATA

Fax Number: (732)594-4720

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: 732-594-2843 Email: us efs@merck.com

MERCK SHARP & DOHME CORP. Correspondent Name: P.O. BOX 2000 - PATENT DEPT. Address Line 1:

Address Line 2: RY86-2011A

Address Line 4: RAHWAY, NEW JERSEY 07065

ATTORNEY DOCKET NUMBER: MRL-NOP-00103-US-CNT-2

PAIENI **REEL: 042765 FRAME: 0619** 504423438

| NAME OF SUBMITTER: | KATHLEEN A. REYNOLDS | | |
|---|----------------------|--|--|
| SIGNATURE: /KATHLEEN A. REYNOLDS/ | | | |
| DATE SIGNED: 06/21/2017 | | | |
| Total Attachments: 5 | | | |
| source=MRL-NOP-00103-US-NP_ASSIGN#page1.tif | | | |
| source=MRL-NOP-00103-US-NP_ASSIGN#page2.tif | | | |
| source=MRL-NOP-00103-US-NP_ASSIGN#page3.tif | | | |
| source=MRL-NOP-00103-US-NP_ASSIGN#page4.tif | | | |

 $source = MRL-NOP-00103-US-NP_ASSIGN\#page5.tif$

PATENT REEL: 042765 FRAME: 0620

Attorney Docket No.: MRL-NOP-00103-US-NP

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Ian M Bell, located at Harleysville, PA,
- (2) Mark E. Fraley, located at North Wales, PA,
- (3) Steven N. Gallicchio, located at Horsham, PA,
- (4) Anthony Ginnetti, located at Perkasie, PA,
 (5) Helen J. Mitchell, located at Richboro, PA,
 (6) Daniel V. Paone, located at Lansdale, PA,
- (7) Donnette D. Staas, located at Holland, PA,
- (8) Cheng Wang, located at Fort Washington, PA,
- (9) C. Blair Zartman, located at Hatfield, PA,

and

(10) Heather E. Stevenson, located at Philadelphia, PA,

(hereinafter ASSIGNOR(S)), is/are the inventor(s) of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

PIPERIDINONE CARBOXAMIDE AZAINDANE CGRP RECEPTOR ANTAGONISTS

and/or in the following application(s):

| U.S. Provisional Application No. 61/413,07 | 77 filed on 11/12/2010; and | |
|--|-----------------------------|---------|
| U.S. Provisional Application No. 61/425,03 | 34 filed on 12/20/2010 | |
| U.S. Application No. | having a filing date of | ; and |
| PCT International Application No | having a filing | date of |

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter ASSIGNEE), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize ASSIGNEE to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

PATENT REEL: 042765 FRAME: 0621

| Executed thisday of | Worldwide Assigr | iment | A | ttorney Docket No.: MRL-NOP-00103-US-NP |
|--|--------------------------|-----------------------|-----------------------------|---|
| Steven N. Gallicchio Anthony Ginnetti Helen J. Mitchell Daniel V. Paone C. Blair Zartman ACKNOWLEDGEMENT On this day of s.s.: County of sallicchio, Anthony Ginnetti, Helen J. Mitchell, Daniel V. Paone, Donnette D. Staas, Cheng Wang, Blair Zartman, to me known, and known by me to be the same person(s) described in and who executed the forego instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth. (Seal) Notary Public Executed this 29 day of October , 2011. | | | | |
| Steven N. Gallicchio Anthony Ginnetti Daniel V. Paone Cheng Wang C. Blair Zartman ACKNOWLEDGEMENT On this day of steven N. Gallicchio, Anthony Ginnetti, Helen J. Mitchell, Daniel V. Paone, Donnette D. Staas, Cheng Wang Steven N. Gallicchio, Anthony Ginnetti, Helen J. Mitchell, Daniel V. Paone, Donnette D. Staas, Cheng Wang, Steven N. Gallicchio, Anthony Ginnetti, Helen J. Mitchell, Daniel V. Paone, Donnette D. Staas, Cheng Wang, General Market, Cheng Wang, General Ma | Executed this | day of | , 2011. | |
| Steven N. Gallicchio Anthony Ginnetti Daniel V. Paone Cheng Wang C. Blair Zartman ACKNOWLEDGEMENT On this day of steven N. Gallicchio, Anthony Ginnetti, Helen J. Mitchell, Daniel V. Paone, Donnette D. Staas, Cheng Wang, Blair Zartman, to me known, and known by me to be the same person(s) described in and who executed the forego instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth. (Seal) Notary Public Executed this 29 day of October , 2011. Hattur Rauma Heather E. Stevenson ACKNOWLEDGEMENT | | | | |
| Donnette D. Staas Cheng Wang C. Blair Zartman ACKNOWLEDGEMENT of | lan M. Bell | | | Mark E. Fraley |
| Donnette D. Staas Cheng Wang C. Blair Zartman ACKNOWLEDGEMENT of | Steven N. Gallice | chio | <u></u> | Anthony Ginnetti |
| C. Blair Zartman ACKNOWLEDGEMENT | | | | randicity Camillonia |
| C. Blair Zartman ACKNOWLEDGEMENT | Helen J. Mitchell | | | Daniel V. Paone |
| ACKNOWLEDGEMENT | Donnette D. Staa | ıs | | Cheng Wang |
| ACKNOWLEDGEMENT | | | | |
| County of | C. Blair Zartman | | | |
| On this day of , 2011, personally appeared before me lan M. Bell, Mark E. Frales Steven N. Gallicchio, Anthony Ginnetti, Helen J. Mitchell, Daniel V. Paone, Donnette D. Staas, Cheng Wang, Common Blair Zartman, to me known, and known by me to be the same person(s) described in and who executed the foregoinstrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth. (Seal) Notary Public Executed this29 day ofOctober , 2011. Heatter E. Stevenson ACKNOWLEDGEMENT | ACKNOWLEDGE | EMENT | | |
| On this day of , 2011, personally appeared before me lan M. Bell, Mark E. Frales Steven N. Gallicchio, Anthony Ginnetti, Helen J. Mitchell, Daniel V. Paone, Donnette D. Staas, Cheng Wang, Common Blair Zartman, to me known, and known by me to be the same person(s) described in and who executed the foregoinstrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth. (Seal) Notary Public Executed this29 day ofOctober , 2011. Heatter E. Stevenson ACKNOWLEDGEMENT | | of | | |
| Blair Zartman, to me known, and known by me to be the same person(s) described in and who executed the forego instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth. (Seal) Notary Public Executed this 28 day of October, 2011. Hattu Strum Heather E. Stevenson ACKNOWLEDGEMENT | County of | |) s.s.:) | |
| Notary Public Executed this 29 day of October, 2011. Hattu Stevenson ACKNOWLEDGEMENT | Blair Zartman, to | me known, and know | n by me to be the sam | e person(s) described in and who executed the foregoin |
| Executed this 28 day of October, 2011. Hattu Stevenson ACKNOWLEDGEMENT | (Seal) | | | |
| Hattu Stevenson Heather E. Stevenson ACKNOWLEDGEMENT | | | | Notary Public |
| Heather E. Stevenson ACKNOWLEDGEMENT | Executed this 29 | day of <u>October</u> | , 2011. | |
| | 1.000 | cv | | |
| | 4 O//NOW/ ED OF | | | |
|) s.s.: | | | ١ | |
| County of \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | County of MM | tyomen/ |) s.s.:) | |
| On this day of Choke , 2011, personally appeared before me Heather E. Stevenson to reknown, and known by me to be the same person 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. | On this known, and known | day of OC+ok | , 2011, person described in | onally appeared before me Heather E. Stevenson to me and who executed the foregoing instrument, and |

NOTARIAL SEAL DIANE G WHITTAKER

Notary Public MONTGOMERY TWP., MONTGOMERY COUNTY My Commission Expires Aug 2, 2015

Scane M Mhttape Notary Public

Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

REEL: 042765 FRAME: 0622

Attorney Docket No.: MRL-NOP-00103-US-NP

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Ian M Bell, located at Harleysville, PA,
- Mark E. Fraley, located at North Wales, PA,
- (3) Steven N. Gallicchio, located at Horsham, PA,
- (4) Anthony Ginnetti, located at Perkasie, PA,
- (5) Helen J. Mitchell, located at Richboro, PA,
 (6) Daniel V. Paone, located at Lansdale, PA,
- (7) Donnette D. Staas, located at Holland, PA,
- (8) Cheng Wang, located at Fort Washington, PA,
- (9) C. Blair Zartman, located at Hatfield, PA,

and

(10) Heather E. Stevenson, located at Philadelphia, PA,

(hereinafter ASSIGNOR(S)), is/are the inventor(s) of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

PIPERIDINONE CARBOXAMIDE AZAINDANE CGRP RECEPTOR ANTAGONISTS

and/or in the following application(s):

| U.\$. Provisional Application No. 61/413,0 | 77 filed on 11/12/2010; and | d |
|--|-----------------------------|-----------|
| U.S. Provisional Application No. 61/425,03 | 34 filed on 12/20/2010 | |
| U.\$. Application No. | having a filing date of | ; and |
| PCT International Application No | having a filin | g date of |

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter ASSIGNEE), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize ASSIGNEE to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Computer Generated Template "Assignment-Merck Sharp & Dohme, Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp., 11/04/2010

PATENT REEL: 042765 FRAME: 0623 Attorney Docket No.: MRL-NOP-00103-US-NP

| Executed this | 28 day of OCTOOL , 2 | 011. | |
|------------------------|---|--|--|
| 12 | 1 | | Mag hall |
| lan M. Bell | | | Mark E. Fraley |
| | 1. Miller | | Joseph Jan |
| Steven N. Ga | Ilicchio | | Anthony Girmetti |
| | | | Fail Vilon |
| Helen J. Mitc | hell | | Daniel V. Paone |
| | | | 1 has Wassey |
| Donnette D. S | Staas | | Cheng Wang |
| Cfl | 4 | | 0 |
| C. Blair Zartm | nan | | • |
| . (| | | |
| ACKNOWLE | DEMENT Democylian Stup of Upper Suppose | u'a_ | |
| Town | Shup of Upperson | | 1410 |
| County of Y | ionigeneral |) s.s.:) | |
| On thi | in Aday of MINN | 2011 paragnall | y appeared before me lan M. Bell, Mark E. Fraley, |
| Օքլան Steven N. Gal | llicchio. Anthony Ginnetti Helen | , 2011, personali -I Mitchell Dani | y appeared before me lan M. Bell, Mark E. Fraley, iel V. Paone, Donnette P. Staas, Cheng Wang, C. |
| Blair Zartman | to me known, and known by me t | o be the same pe | rson(s) described in and who executed the foregoing |
| instrument, an | d acknowledged that he (she) exec | cuted the same, o | f his (her) own free will for the purpose set forth. |
| (Seal) | OADA/F AL TV | 100 | 10 \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ |
| COMM | ONWEALTH OF PENNSYLVANIA Notarial Seal | - TUIC | Motary Public |
| Upper | Oprothy M. Miller, Notary Public Gwynedd Two., Montgomeny County | | Wolary Fublic |
| Member. | Commission Expires May 14, 2013 Pennsylvania Association of Notaries | | |
| Executed this | day of, | , 2011. | |
| | | | |
| Heather E. Ste | evenson | | |
| ACKNOWLED | OGEMENT | | |
| | | | |
| - | of)) | s.s.: | |
| County of |) | | |
| known, and kn | s day of own by me to be the same person that he (she) executed the same, o | described in and | y appeared before me Heather E. Stevenson to me who executed the foregoing instrument, and ee will for the purpose set forth. |
| (Seal) | | | |
| | | | Notary Public |
| | | | NOTATY PUBLIC |
| | | | |
| <u>.</u> | | | |

Page 2 of 2 Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

REEL: 042765 FRAME: 0624

On this _____ day of ______, 2011, personally appeared before me **Heather E. Stevenson** to me known, and known by me to be the same person 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)

Notary Public

Page 2 of 2 Computer Generated Template "Assignment-Merck Sharp & Dohme. Single Assignee Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

PATENT

REEL: 042765 FRAME: 0625

RECORDED: 06/21/2017