503686543 02/11/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3733179

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TJEERD A. BARF	11/27/2013
CHRISTIAAN GERARDUS JOHANNES MARIA JANS	11/30/2013
PETRUS ANTONIUS DE ADRIANUS MAN	11/28/2013
ARTHUR A. OUBRIE	11/28/2013
HANS C.A. RAAIJMAKERS	11/20/2013
JOHANNES BERNARDUS MARIA REWINKEL	11/26/2013
JAN-GERARD STERRENBURG	11/28/2013
JACOBUS C.H.M. WIJKMANS	12/11/2013

RECEIVING PARTY DATA

Name:	MERCK SHARP & DOHME B.V.	
Street Address:	WAARDERWEG 39	
City:	HAARLEM	
State/Country:	NETHERLANDS	
Postal Code:	2031 BN	

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	15019543
Application Number:	15019561

CORRESPONDENCE DATA

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

COVINGTON & BURLING LLP Correspondent Name:

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: 015332.1182

JENNIFER AUGSBURGER NAME OF SUBMITTER:

REEL: 037705 FRAME: 0474 503686543

PAIENI

SIGNATURE:	/jennifer augsburger/	
DATE SIGNED:	02/11/2016	
Total Attachments: 16		
source=2011182-Assignment#page1.tif		
source=2011182-Assignment#page2.tif		
source=2011182-Assignment#page3.tif		
source=2011182-Assignment#page4.tif		
source=2011182-Assignment#page5.tif		
source=2011182-Assignment#page6.tif		
source=2011182-Assignment#page7.tif		
source=2011182-Assignment#page8.tif		
source=2011182-Assignment#page9.tif		
source=2011182-Assignment#page10.tit	i	
source=2011182-Assignment#page11.tit		
source=2011182-Assignment#page12.tif		
source=2011182-Assignment#page13.tif		
source=2011182-Assignment#page14.tif		
source=2011182-Assignment#page15.tif		
source=2011182-Assignment#page16.tit		

PATENT REEL: 037705 FRAME: 0475

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1)	Tjeerd A. BARF	located at Ravenstein, The Netherlands
(2)	Christiaan Gerardus Johannes Maria JANS	located at Cuijk, The Netherlands,
(3)	Petrus Antonius de Adrianus MAN	located at Hurwenen, The Netherlands
(4)	Arthur A. OUBRIE	located at Wijchen, The Netherlands,
(5)	Hans C.A. RAAIJMAKERS	located at Eindhoven, The Netherlands,
(6)	Johannes Bernardus Maria REWINKEL	located at Berghem, The Netherlands,
(7)	Jan-Gerard STERRENBURG	located at Renkum, The Netherlands,
(8)	Jacobus C.H.M. WIJKMANS	located at Oss, The Netherlands,

(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:

4-IMIDAZOPYRIDAZIN-1-YL-BENZAMIDES AND 4-IMIDAZOTRIAZIN-1-YL-BENZAMIDES AS BTK INHIBITORS

And/or in the following application(s):

EP 11174578.24 filed on July 19, 2011 (EP priority application)
US 61/509,397 filed on July 19, 2011 (U.S. provisional application)
PCT/EP2012/063552 filed on July 11, 2012 (PCT international application)

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 B.V., a corporation organized under the laws of the Netherlands, having its principle office at Waarderweg 39, 2031 BN Haarlem, the Netherlands, 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.

Executed th	is 27 th day of Novem	, bur , 2	013.
Tjeel	rd A. BARF		
WITNESS:	Personally appeared before me the above named foregoing instrument and acknowledged said instrument, 201	ument to be his/her free act a	
	Witness 1	Witness 2	
	Signature 11/00/2007	Signature	
	Print Name Nels Hoogen Soom	Print Name	Edwin de 2wort
	Data 22-11-2012	Date	07- 11- 2013

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1)	Tjeerd A. BARF	located at Ravenstein, The Netherlands
(2)	Christiaan Gerardus Johannes Maria JANS	located at Cuijk, The Netherlands,
(3)	Petrus Antonius de Adrianus MAN	located at Hurwenen, The Netherlands
(4)	Arthur A. OUBRIE	located at Wijchen, The Netherlands,
(5)	Hans C.A. RAAIJMAKERS	located at Eindhoven, The Netherlands,
(6)	Johannes Bernardus Maria REWINKEL	located at Berghem, The Netherlands,
(7)	Jan-Gerard STERRENBURG	located at Renkum, The Netherlands,
(8)	Jacobus C.H.M. WIJKMANS	located at Oss, The Netherlands.

(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:

4-IMIDAZOPYRIDAZIN-1-YL-BENZAMIDES AND 4-IMIDAZOTRIAZIN-1-YL-BENZAMIDES AS BTK INHIBITORS

And/or in the following application(s):

EP 11174578.24 filed on July 19, 2011 (EP priority application)
US 61/509,397 filed on July 19, 2011 (U.S. provisional application)
PCT/EP2012/063552 filed on July 11, 2012 (PCT international application)

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 B.V., a corporation organized under the laws of the Netherlands, having its principle office at Waarderweg 39, 2031 BN Haarlem, the Netherlands, 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.

Executed thi	s3 O	day of	november		, 2013.		
	el	· · · · · · · · · · · · · · · · · · ·					
	A			the second of th			
Chris	tiaan Gerardus	Johannes Maria	a JANS	errore de de la constante de l			
	γ						
NITNESS:	- ,	-	me the above named <u>Ch</u> instrument and acknow				
	30	day of	10	_	13.	_	
	Witness 1	mell	16-3	Witness-2			
	Signature _			Signature	1	*	
	Print Name	m/750	Tans	Print Name	e Diffes	25	
	Date	30-11~	類 (2013	Date	305-111	-20/13	

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1)	Tjeerd A. BARF	located at Ravenstein, The Netherlands,
(2)	Christiaan Gerardus Johannes Maria JANS	located at Cuijk, The Netherlands,
(3)	Petrus Antonius de Adrianus MAN	located at Hurwenen, The Netherlands
(4)	Arthur A. OUBRIE	located at Wijchen, The Netherlands,
(5)	Hans C.A. RAAIJMAKERS	located at Eindhoven, The Netherlands,
(6)	Johannes Bernardus Maria REWINKEL	located at Berghem, The Netherlands,
(7)	Jan-Gerard STERRENBURG	located at Renkum, The Netherlands,
(8)	Jacobus C.H.M. WIJKMANS	located at Oss, The Netherlands,

(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:

4-IMIDAZOPYRIDAZIN-1-YL-BENZAMIDES AND 4-IMIDAZOTRIAZIN-1-YL-BENZAMIDES AS BTK INHIBITORS

And/or in the following application(s):

EP 11174578.24 filed on July 19, 2011 (EP priority application)
US 61/509,397 filed on July 19, 2011 (U.S. provisional application)
PCT/EP2012/063552 filed on July 11, 2012 (PCT international application)

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 B.V., a corporation organized under the laws of the Netherlands, having its principle office at Waarderweg 39, 2031 BN Haarlem, the Netherlands, 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-MSD Oss BV Single Assignee Worldwide" (Assignment) Merck Sharpe & Dohme Corp. 11/02/2011

Executed th	is <u>20 + L</u> day of <u>N</u> U	vimber	, 2013.
	Mas		
Petr	us Antonius de Adrianus MAN		
WITNESS:			e Adrianus MAN known to me to be the person who nt to be his/her free act and deed this
	day of	, 2013.	
	Witness 1	Witnes	ss2 Allanda
	Signature Glaman	Signatu	ire Hogers
	Print Name 5.J.R. Za	Print N	ame <u>ful Spyrers-Hagel</u> steir
	Date 20-11-20	13 Date	U28-11-2013

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1)	Tjeerd A. BARF	located at Ravenstein, The Netherlands,
(2)	Christiaan Gerardus Johannes Maria JANS	located at Cuijk, The Netherlands,
(3)	Petrus Antonius de Adrianus MAN	located at Hurwenen, The Netherlands
(4)	Arthur A. OUBRIE	located at Wijchen, The Netherlands,
(5)	Hans C.A. RAAIJMAKERS	located at Eindhoven, The Netherlands,
(6)	Johannes Bernardus Maria REWINKEL	located at Berghem, The Netherlands,
(7)	Jan-Gerard STERRENBURG	located at Renkum, The Netherlands,
(8)	Jacobus C.H.M. WUKMANS	located at Oss. The Netherlands.

(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:

4-IMIDAZOPYRIDAZIN-1-YL-BENZAMIDES AND 4-IMIDAZOTRIAZIN-1-YL-BENZAMIDES AS BTK INHIBITORS

And/or in the following application(s):

EP 11174578.24 filed on July 19, 2011 (EP priority application)
US 61/509,397 filed on July 19, 2011 (U.S. provisional application)
PCT/EP2012/063552 filed on July 11, 2012 (PCT international application)

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 B.V., a corporation organized under the laws of the Netherlands, having its principle office at Waarderweg 39, 2031 BN Haarlem, the Netherlands, 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.

Executed this	<u>. 284</u>	<u></u>	Noven	ber	_, 2013.	
	1	Alth	to	>		
Arthu	Ir A. OUBRIE					
WITNESS:	foregoing in:		owledged said instru	ment to be his/her free		person who executed the
	Witness 1 Signature	-8	2013	Witness 2 Signature		
	Print Name	Silvy	ran Tuil	Print Name	MIARIO (van 2eeland

Date

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1)	Tjeerd A. BARF	located at Ravenstein, The Netherlands,
(2)	Christiaan Gerardus Johannes Maria JANS	located at Cuijk, The Netherlands,
(3)	Petrus Antonius de Adrianus MAN	located at Hurwenen, The Netherlands
(4)	Arthur A. OUBRIE	located at Wijchen, The Netherlands,
(5)	Hans C.A. RAAIJMAKERS	located at Eindhoven, The Netherlands,
(6)	Johannes Bernardus Maria REWINKEL	located at Berghem, The Netherlands,
(7)	Jan-Gerard STERRENBURG	located at Renkum, The Netherlands,
(8)	Jacobus C.H.M. WIJKMANS	located at Oss, The Netherlands,

(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:

4-IMIDAZOPYRIDAZIN-1-YL-BENZAMIDES AND 4-IMIDAZOTRIAZIN-1-YL-BENZAMIDES AS BTK INHIBITORS

And/or in the following application(s):

EP 11174578.24 filed on July 19, 2011 (EP priority application)
US 61/509,397 filed on July 19, 2011 (U.S. provisional application)
PCT/EP2012/063552 filed on July 11, 2012 (PCT international application)

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 B.V., a corporation organized under the laws of the Netherlands, having its principle office at Waarderweg 39, 2031 BN Haarlem, the Netherlands, 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.

Executed thi	s	day of	Na ven l	er	, 2013.	
	Hant)				
Hans	C.A. RAAIJMAKERS					
VALITAIECC.	Porconally appears	d hofora ma	the shows named Hamed	OC C A DAAHMAVEDS I	enouen to mo to h	oe the person who executed
WITNESS:		ument and ac		rument to be his/her fro		-
	Witness 1	***		Witness 2	7	DJ.
	Signature			Signature	(<u> </u>
	Print Name	ARIO O	ian Zeelan	Print Name	Silve	Lyan Tuyl
	Date 2	P-11-	2013	Date	20-4	-2013

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1)	Tjeerd A. BARF	located at Ravenstein, The Netherlands,
(2)	Christiaan Gerardus Johannes Maria JANS	located at Cuijk, The Netherlands,
(3)	Petrus Antonius de Adrianus MAN	located at Hurwenen, The Netherlands
(4)	Arthur A. OUBRIE	located at Wijchen, The Netherlands,
(5)	Hans C.A. RAAIJMAKERS	located at Eindhoven, The Netherlands,
(6)	Johannes Bernardus Maria REWINKEL	located at Berghem, The Netherlands,
(7)	Jan-Gerard STERRENBURG	located at Renkum, The Netherlands,
(8)	Jacobus C.H.M. WUKMANS	located at Oss. The Netherlands.

(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:

4-IMIDAZOPYRIDAZIN-1-YL-BENZAMIDES AND 4-IMIDAZOTRIAZIN-1-YL-BENZAMIDES AS BTK INHIBITORS

And/or in the following application(s):

EP 11174578.24 filed on July 19, 2011 (EP priority application)
US 61/509,397 filed on July 19, 2011 (U.S. provisional application)
PCT/EP2012/063552 filed on July 11, 2012 (PCT international application)

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 B.V., a corporation organized under the laws of the Netherlands, having its principle office at Waarderweg 39, 2031 BN Haarlem, the Netherlands, 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.

Executed thi	s_06 day of Nover	nber, 2013.	
	13		
Joha	nnes Bernardus Maria REWINKEL		
WITNESS:		ned <u>Johannes Bernardus Maria REWINKEL</u> known to me to be the p cknowledged said instrument to be his/her free act and deed this , 2013.	person
	Witness 1	Witness 2	
	Signature	Signature	
	Print Name Dorten Van Er	Print Name Liam Duger	
	Date 26/11/2013	Date 26/4/2013	

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1)	Tjeerd A. BARF	located at Ravenstein, The Netherlands,
(2)	Christiaan Gerardus Johannes Maria JANS	located at Cuijk, The Netherlands,
(3)	Petrus Antonius de Adrianus MAN	located at Hurwenen, The Netherlands
(4)	Arthur A. OUBRIE	located at Wijchen, The Netherlands,
(5)	Hans C.A. RAAIJMAKERS	located at Eindhoven, The Netherlands,
(6)	Johannes Bernardus Maria REWINKEL	located at Berghem, The Netherlands,
(7)	Jan-Gerard STERRENBURG	located at Renkum, The Netherlands,
(8)	Jacobus C.H.M. WIJKMANS	located at Oss, The Netherlands,

(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:

4-IMIDAZOPYRIDAZIN-1-YL-BENZAMIDES AND 4-IMIDAZOTRIAZIN-1-YL-BENZAMIDES AS BTK INHIBITORS

And/or in the following application(s):

EP 11174578.24 filed on July 19, 2011 (EP priority application)
US 61/509,397 filed on July 19, 2011 (U.S. provisional application)
PCT/EP2012/063552 filed on July 11, 2012 (PCT international application)

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 B.V., a corporation organized under the laws of the Netherlands, having its principle office at Waarderweg 39, 2031 BN Haarlem, the Netherlands, 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.

Executed th	is <u>28 th</u>	day of	embe	r	, 2013.			
		Jh7_						
Jan-	Gerard STERRENBUR	S			,			
		-60					•	
WITNESS:		ed before me the above na rument and acknowledged					n who executed day of	
			, 2013،		Λ			
	Witness 1	(7		Witness 2	III ONE	5		
	Signature	5 0 mm	,	Signature	3		1/	٠
	Print Name	1 G-J-R- 2	amen	Print Name	Ju s	phykeiz	-Hagels	reur
	Date	20/11/2013	[Date	28-11	-2013		

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1)	Tjeerd A. BARF	located at Ravenstein, The Netherlands,
(2)	Christiaan Gerardus Johannes Maria JANS	located at Cuijk, The Netherlands,
(3)	Petrus Antonius de Adrianus MAN	located at Hurwenen, The Netherlands
(4)	Arthur A. OUBRIE	located at Wijchen, The Netherlands,
(5)	Hans C.A. RAAIJMAKERS	located at Eindhoven, The Netherlands,
(6)	Johannes Bernardus Maria REWINKEL	located at Berghem, The Netherlands,
(7)	Jan-Gerard STERRENBURG	located at Renkum, The Netherlands,
(8)	Jacobus C.H.M. WIJKMANS	located at Oss, The Netherlands,

(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:

4-IMIDAZOPYRIDAZIN-1-YL-BENZAMIDES AND 4-IMIDAZOTRIAZIN-1-YL-BENZAMIDES AS BTK INHIBITORS

And/or in the following application(s):

EP 11174578.24 filed on July 19, 2011 (EP priority application)
US 61/509,397 filed on July 19, 2011 (U.S. provisional application)
PCT/EP2012/063552 filed on July 11, 2012 (PCT international application)

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 B.V., a corporation organized under the laws of the Netherlands, having its principle office at Waarderweg 39, 2031 BN Haarlem, the Netherlands, 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.

Executed this	day of Recem-	bix	_, 2013.	
Jacob	S C.H.M. WHKMANS			
WITNESS:	Personally appeared before me the above named <u>Jacobu</u> executed the foregoing instrument and acknowledged saday of			,
	Witness 1	Witness 2 Signature	A	
	Print Name WKuit	Print Name	NJPA van Rs	
	Date ///////	Data		