PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
KERIM BABAOGLU	08/08/2018
JESSICA ANNE FLYNN	08/07/2018
LAN ZHANG	08/07/2018
DAVID NICKLE	08/08/2018

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16493986

CORRESPONDENCE DATA

Fax Number: (617)646-8646

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: 6176468000

Email: patents_HeatherD@WolfGreenfield.com,

Sharon.Lloyd@WolfGreenfield.com

Correspondent Name: WOLF, GREENFIELD & SACKS, P.C.

Address Line 1: **600 ATLANTIC AVENUE**

Address Line 4: BOSTON, MASSACHUSETTS 02210

ATTORNEY DOCKET NUMBER:	M1378.70074US02	
NAME OF SUBMITTER:	SHARON R. LLOYD	
SIGNATURE:	/Sharon R. Lloyd/	
DATE SIGNED:	03/19/2020	

Total Attachments: 6

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MTX464.20WO & MTX464.61

Attorney Docket No.: M1378.70074WO00 & M1378.70074US01

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Kerim Babaoglu, located at Lansdale, Pennsylvania,
- (2) Jessica Anne Flynn, located at Lansdale, Pennsylvania,
- (3) Lan Zhang, located at Chalfont, Pennsylvania,
- (4) David Nickle, located at Seattle, Washington

(hereinafter ASSIGNOR(S)), together with <u>Giuseppe Ciaramella</u>, located at <u>Sudbury</u>, <u>Massachusetts</u>, and <u>Eric Yi-Chun</u> <u>Huang</u>, located at <u>Boston</u>, <u>Massachusetts</u>, are the inventors of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

BROAD SPECTRUM INFLUENZA VIRUS VACCINE

and in the following application(s):

U.S. Provisional Application No. <u>62/490,057</u> filed on <u>April 26, 2017</u>;
U.S. Application No. <u>having a filing date of</u>; and PCT International Application No. <u>PCT/US2018/022605</u> having a filing date of <u>March 15, 2018</u>.

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.

IWE 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.

MTX464.20WO & MTX464.61

Attorney Docket No.: M1378.70074WO00 & M1378.70074US01

Executed this
Kerim Babaogiu
ACKNOWLEDGEMENT
Commonwealth of Pennsylvania)
) s.s.: County of Montgomery
On this day of 4000, 20 personally appeared before me Kerim Babaoglu to me known, and know by me to be the same person described in and who executed the foregoing instruments, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.
COMMONWEALTH OF PENNSYLVANIA NOTARIAL SEAL Dorothy M. Miller, Notary Public Usper Gwynedd Twp., Montgomery County My Commission Expires May 14, 2021 UENSER PENNSYLVANIASSOCIATION OF HOTARIES
Executed this <u>07</u> day of <u>Aug</u> , 20 <u>18</u>
Jerie O. Aynı
Jossica Anne Flynn
ACKNOWLEDGEMENT
Commonwealth of Pennsylvania) s.s.:
County of Montgomery)
On this
COMMONWEALTH OF PENNSYLVANIA NOTARIAL SEAL Dorothy M. Miller, Notary Public Upper Gwynedd Twp., Montgomery County My Commission Expires May 14, 2021 MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

5433266.1

Attorney Docket No.: M1378.70074WO00 & M1378.70074US01

Executed this	*
1,,,,,	
Lan Zhang	
ACKNOWLEDGEMENT	
Commonwealth of Pennsylvania)) s.s.:
County of Montgomery)
On this day of	18 personally appeared before me Lan Zhang to me known, and know by me the foregoing instruments, and acknowledged that he (she) executed the same,
COMMONWEALTH OF PENNSYLVANIA NOTARIAL SEAL Dorothy M. Miller, Notary Public Upper Gwynedd Twp., Montgomery County My Commission Expires May 14, 2021 MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES	STOOTHY W. MURLY Public
Executed this day of, 20	
David Nickle	
ACKNOWLEDGEMENT	
State of Washington)) s.s.:
County of)	
	personally appeared before me David Nickle to me known, and know by ted the foregoing instruments, and acknowledged that he (she) executed the rth.
(Seal)	
	Notary Public

5433266.1

MTX464.20WO & MTX464.61

Attorney Docket No.: M1378.70074WO00 & M1378.70074US01

WORLDWIDE ASSIGNMENT

WHEREAS, I'WE,

- (1) Kerim Babaoglu, located at Lansdale, Pennsylvania,
- (2) Jessica Anne Flynn, located at Lansdale, Pennsylvania,
- (3) Lan Zhang, located at Chalfont, Pennsylvania,
- (4) David Nickle, located at Seattle, Washington

(hereinafter ASSIGNOR(S)), together with <u>Giuseppe Ciaramella</u>, located at <u>Sudbury</u>, <u>Massachusetts</u>, and <u>Eric Yi-Chun Huang</u>, located at <u>Boston</u>, <u>Massachusetts</u>, are the inventors of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

BROAD SPECTRUM INFLUENZA VIRUS VACCINE

and in the following application(s):

U.S.	Provisional A	Application 1	No. <u>62/490,057</u> filed on <u>April 26, 2017</u> ;	
U.S.	Application	No.	having a filing data of	; and
PCT	International	Application	No.PCT/US2018/022605 having a filing date of March 1	$\frac{1}{5,2018}$

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.

IWE 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.

MTX464.20WO & MTX464.61 Attorney Docket No.: M1378.70074WO00 & M1378.70074US01

Executed this day of, 20	
Kerim Babaoglu	
ACKNOWLEDGEMENT	
Commonwealth of Pennsylvania)	
County of Montgomery	
On thisday of, 20, by me to be the same person described in and who executed same, of his (her) own free will for the purpose set forth.	personally appeared before me Kerim Babaoglu to me known, and know it the foregoing instruments, and acknowledged that he (she) executed the
(Seal)	
	Notary Public
Executed this day of, 20	
Jessica Anne Flynn	
ACKNOWLEDGEMENT	
Commonwealth of Pennsylvania) s.s.:	
County of Montgomery)
On thisday of, 20, particle in and who ex executed the same, of his (her) own free will for the purpose	personally appeared before me Jessica Anne Flynn to me known, and ecuted the foregoing instruments, and acknowledged that he (she) e set forth.
(Seal)	
	Notary Public

MTX464.20WO & MTX464.61 Attorney Docket No.: M1378.70074W000 & M1378.70074US01

Executed this _	day of		
Lan Zhang			
ACKNOWLE	OGEMENT		
Commonwealth	ı of Pennsylvania)		
County of Mon	tgomery) 8.8.:)
to be the same [sday of person described in and v n free will for the purpose	tho executed the fores	sonally appeared before me Lan Zhang to me known, and know by me toing instruments, and acknowledged that he (she) executed the same,
(Seal)			
			Notary Public
Executed this	<u>S_day of _ S_</u>	, 20_1 8	
David Nickle	Mille	per la	
ACKNOWLED	GEMENT		
State of Washin	igton)		
County of	KING) s.s.:)	
On this me to be the sar	s Book day of Avas	aS+, 2018, per of who executed the fi	sonally appeared before me David Nickle to me known, and know by pregoing instruments, and acknowledged that he (she) executed the
(Seal)			to the matter that
	20 A7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		Notary Public

PATENT REEL: 052162 FRAME: 0285

RECORDED: 03/19/2020