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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
GWONG-JEN J. CHANG	11/14/2012
WAYNE D. CRILL	11/14/2012
BRENT S. DAVIS	11/14/2012
HOLLY R. HUGHES	11/16/2012

RECEIVING PARTY DATA

Name:	THE GOVERNMENT OF THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES
Street Address:	CENTERS FOR DISEASE CONTROL AND PREVENTION, TECHNOLOGY TRANSFER OFFICE
Internal Address:	4770 BUFORD HIGHWAY, MS K-79
City:	ATLANTA
State/Country:	GEORGIA
Postal Code:	30341

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16745986

CORRESPONDENCE DATA

Fax Number: (503)595-5301

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.

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Email: gina.horton@klarquist.com

JODI L. CONNOLLY, KLARQUIST SPARKMAN LLP Correspondent Name:

Address Line 1: 121 SW SALMON ST., SUITE 1600 Address Line 2: ONE WORLD TRADE CENTER Address Line 4: PORTLAND, OREGON 97204-2927

ATTORNEY DOCKET NUMBER:	4239-87772-11
NAME OF SUBMITTER:	JODI L. CONNOLLY
SIGNATURE:	/Jodi L. Connolly/
DATE SIGNED:	02/11/2020

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Total Attachments: 5

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ASSIGNMENT

We, Gwong-Jen J. Chang, of Fort Collins, Colorado, a citizen of the United States of America, Wayne D. Crill, of Fort Collins, Colorado, a citizen of the United States of America, and Brent S. Davis, of Fort Collins, Colorado, a citizen of the United States of America, have invented COMPOSITIONS AND METHODS FOR REDIRECTING THE IMMUNE RESPONSE TO DENGUE VACCINATION. This is an Assignment of the following rights, title and interest:

\boxtimes	United States of America rights, title and interest in the invention
\boxtimes	Foreign rights, title and interest in the invention
\boxtimes	International PCT Patent Application Serial No. PCT/US2012/060872 filed on October
	18, 2012

We were employed by the Department of Health and Human Services at the time the invention was made. The conditions under which said invention was made are such as to entitle the Government of the United States of America under Paragraph 1(a) of Executive Order 10096, to the entire right, title, and interest in the invention, in the United States and all other countries throughout the world.

In consideration of our obligations under Executive Order 10096, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we the undersigned, have voluntarily sold, assigned, and transferred and do voluntarily sell, assign, and transfer to The Government of the United States of America as represented by the Secretary of the Department of Health and Human Services (hereinafter THE GOVERNMENT), and successors and assigns, our full and exclusive right, title, and interest in the patent application and invention throughout the United States of America, its territories and dependencies, and all other countries. This includes an assignment of all Letters Patent that may be granted on the invention in the United States of America and all countries throughout the world, and any divisional, renewal, continuation in whole or in part, substitution, conversion, reexamination, reissue, prolongation or extension thereof; and the right to claim priority from the patent application as provided for by United States law, the Patent Cooperation Treaty, the European Patent Convention, the Paris Convention, or other applicable law.

We authorize and request the issuance of said Letters Patent to THE GOVERNMENT, as assignee of our entire right, title, and interest to be held as fully and entirely as the same would have been held by us had this assignment not been made.

We warrant that there are no outstanding assignments, grants, liens, encumbrances, or agreements either written, oral, or implied that will impair, diminish, limit, or abridge the interest herein conveyed at the time of the execution of the present assignment.

We also agree upon reasonable request to communicate to THE GOVERNMENT, its representatives, assigns or agents, any facts known to us respecting the invention, and to testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths, provide all requested documents, and do everything reasonably possible to aid THE GOVERNMENT and its assigns to obtain and enforce proper

ASSIGNMENT - Page 1 of 3

patent protection for the invention in the United States or any foreign country. These provisions are binding upon our heirs, legal representatives, administrators and assigns.

We have authorized THE GOVERNMENT to file and prosecute this patent application, as well as any corresponding international or national applications that claim priority from it. THE GOVERNMENT has the right to select attorneys or agents of its choice to prosecute at its discretion these applications on its behalf.

We grant the law firm of Klarquist Sparkman, LLP, the power to insert on this Assignment any further information that may be necessary or desirable in order to comply with all applicable legal requirements, including the rules of the United States Patent and Trademark Office, for submitting and recording this document.

IN TESTIMONY WHEREOF, Assignors have signed their names on the dates indicated.

Dated: //-/4-20/2

wong-Jen J Chang

STATE OF COLADO

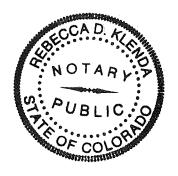
COUNTY OF LARIMER)

This 14 day of NOTEMEN. 2012 before me personally came the above-named Gwong-Jen J. Chang, who executed the foregoing Assignment in my presence, and who acknowledged to me that this instrument was executed by Gwong-Jen J. Chang's own free will for the purpose set forth therein.

Notary Public for _

My commission expires:

[SEAL]



Wayne D. Crill

This 14 day of NOKABEL, 202, before me personally came the above-named Wayne D. Crill, who executed the foregoing Assignment in my presence, and who acknowledged to me that this instrument was executed by Wayne D. Crill's own free will for the purpose set forth therein.

[SEAL]

STANDARY OF COLOR

Notary Public for LARIMER COUNTY
My commission expires: 6/17/2016

Dated: 11-14-2012

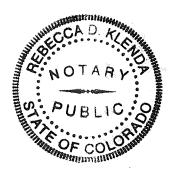
Brent S. Davis

STATE OF (COCADO) s

COUNTY OF LARIMER

This 14 day of NOVEMBEL, 2012, before me personally came the above-named Brent S. Davis, who executed the foregoing Assignment in my presence, and who acknowledged to me that this instrument was executed by Brent S. Davis's own free will for the purpose set forth therein.

[SEAL]



Notary Public for LARIMER CEVILITY
My commission expires: 10/17/2012

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ASSIGNMENT

I, the below identified inventor, Holly R. Hughes, of Tampa, Florida, a citizen of the United States of America (hereinafter referred to as "Assignor"), voluntarily and in consideration of the obligation and promise of the Assignee to distribute any royalties that might be earned as the result of licensing the invention claimed herein to me in accordance with the policies and procedures for such distribution of royalties by the Assignee, the receipt and sufficiency of which is hereby acknowledged, do hereby sell, transfer, set over and assign unto:

ASSIGNEE: THE GOVERNMENT OF THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE DEPARTMENT OF

HEALTH AND HUMAN SERVICES

Assignee Address: Centers for Disease Control and Prevention

Technology Transfer Office 4770 Buford Highway; MS K-79

Atlanta, GA 30341

United States of America

and Assignee's successors, assigns, or nominees, all of my full and entire right, title and interest, in all countries throughout the world, including the rights to claim convention priority, in and to the following application(s), and any and all inventions disclosed in COMPOSITIONS AND METHODS FOR REDIRECTING THE IMMUNE RESPONSE TO DENGUE VACCINATION and by any other patent application filed on said inventions, whether or not claiming priority thereon, and any continuation, continuation in part, division, renewal, extension or substitute thereof, and as to letters patent and any reissue or re-examination thereof, as fully and entirely as same would have been held by me had this assignment not been made, and request all officials of any country or countries whose duty it is to issue letters patent to issue said letters patent in the name of Assignee. This is an Assignment of the following rights, title and interest:

✓ United States of America rights, title and interest in the invention
 ✓ Foreign rights, title and interest in the invention
 ✓ International PCT Patent Application Serial No. PCT/US2012/060872 filed on October 18, 2012

Assignor hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment.

Assignor agrees to promptly provide Assignee, at its request, with all pertinent facts and documents relating to said invention and said application and all other patent applications to be filed thereon, and any letters patent issuing thereon, as may be known or accessible, and will testify, at Assignee's expense, as to the same in any interference, litigation or proceeding related thereto.

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Assignor also agrees to promptly execute and deliver to Assignee or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said invention, said application, and any other patent application filed on said invention, whether or not claiming priority thereon, and any letters patent issuing thereon, and any continuation, division, renewal, or substitute thereof, and as to letters patent any reissue or re-examination thereof, which may be necessary or desirable to carry out the purposes thereof.

Assignor also hereby grants the Assignee the power to insert on this Assignment any further information which may be necessary or desirable in order to comply with all applicable legal requirements, including the rules of the United States Patent & Trademark Office, for submitting and recording this Assignment.

IN TESTIMONY WHEREOF, Assignor has signed their name on the date indicated.

Dated: 1\ ||4| 2012

Holly R. Hughes

STATE OF Florida

SS.

COUNTY OF HIK WOULD

This Normal day of Normal, 2012, before me personally came the above-named Holly R. Hughes, who executed the foregoing Assignment in my presence, and who acknowledged to me that it was executed under that person's own free will for the purposes set forth therein.

DIANE GUNNELL
Notary Public - State of Florida
My Comm. Expires Jun 28, 2013
Commission # DD 903074

Oan Gunel
Notary Public for Stoke of Flores

My commission expires:

612812013

[SEAL]

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