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B/O FORM PTO-1595 (1/31/92) U.S. Department of Commerce Patent and Trademark Office	A HOR MARKA RATHO HOMA HINTI DOMAK ANAR LITU NA MARKA HINTI MARKA			
RECORDATION FORM COVER SHEET PATENTS ONLY				
PALENTS UNLY	102205951			
To the Honorable Commissioner of Patents and Trademarks. Pl	ease record the attached original documents or copy thereof.			
1. Name of Conveying Party:	2. Name and Address of Receiving Partylies!			
<ol> <li>Tadeusz J. KOCHEL</li> <li>Kevin R. PORTER</li> <li>Kanakatte RAVIPRAKASH</li> <li>Stephen L. HOFFMAN</li> </ol>	Name: United States of America as Represented by the Secretary of the Navy			
5) Curtis G. HAYES	Street Address: 503 Robert Grant Avenue			
□ Additional names of conveying parties attached.				
<ul> <li>3. Nature of Conveyance</li> <li>X Assignment</li> <li>□ Merger</li> <li>□ Security Agreement</li> <li>□ Change of Name</li> <li>□ Other:</li> </ul>	City, State, Zip: Silver Spring, MD 20910-7500			
Execution Date: 1) 08/05/98 2) 10/23/98 3) 10/26/98 4) 10/29/98 5) 06/11/02	Additional name(s) and address(es) attached.			
4. (A) Patent Application Number(s):	4. (B) Patent Number(s):			
08/869,423				
If this document is being filed together with a new application, the execution date of the application is:				
5. Name and Address of Party to whom Correspondence	6. Total Number of Applications and Patents Involved			
Concerning this Document Should be Mailed:	1			
lame: Philip E. Ketner	7. Total Fee			
Address: NAVAL MEDICAL RESEARCH CENTER Office of Counsel (Code 00L) 503 Robert Grant Avenue	: (37 CFR 3.41) \$ 40.00			
Silver Spring, MD 20910-7500	X Enclosed.			
	Authorized to be charged to deposit account.			
	8. Deposit Account Number :			
	140595 ATTACH DUPLICATE COPY OF THIS PAGE IF PAYING BY DEPOSIT ACCOUNT.			
DO NOT USE THIS SPACE				
9. Statement and Signature				
To the best of my knowledge and belief, the	foregoing is true and correct and any attached			
copy is a true copy of the original document.				
Name of Person Signing Philip E. Kerner, Reg. No	Date: August 14, 2002			
Attorney Docket No.: NC 77,654				

PATENT REEL: 013227 FRAME: 0207

Appl. Serial No. 08/ 869,423

# ASSIGNMENT OF INVENTION

WHEREAS, I (we) Tadeusz Kochel,; Curtis Hayes,; Stephen Hoffman, ; Kevin Porter; of ; Rockville, Maryland; while employed by the Government of the United States of America, hereinafter referred to as the Government, have invented certain new and useful improvements DENGUE NUCLEIC ACID VACCINES THAT INDUCE NEUTRALIZING ANTIBODIES identified as Navy Case No. 77654 and described in application for Letters Patent of the United States of America executed by me (us) on 6/4/97 having United States Patent Application Serial No. 08/869,423 filed 04 June 1997 ; and

WHEREAS, the Government is desirous of acquiring an assignment of the invention disclosed in said application and other rights and benefits herein granted; and

WHEREAS, the conditions under which the invention was made are such as to entitle the Government under Paragraph 1(a) of Executive Order 10096, to the entire right, title, and interest therein, including foreign rights; and

WHEREAS, as to foreign rights, it is the policy of the Government to obtain an option to exercise such rights;

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration the receipt of which is hereby acknowledged, I (we) hereby assign and transfer to the United States of America as represented by the Secretary of the Navy the entire right title, and interest in and to said invention within the United States of America its territories and possessions, and the entire right, title, and interest in and to said application and any continuation, division or substitution thereof, and such Letters Patents as may issue therefrom and any reissue or extensions thereof, said invention, application and Letters Patent to be held by the United States of America as represented by the Secretary of the Navy to the end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this assignment not been made.

I (we) do hereby also grant unto the Government, the option to take the entire right, title, and interest in the invention and all patent applications or other forms of protection thereon in all countries foreign to the United States of America in which the Government may file, or cause to be filed, applications for Letters Patent or other forms of protection, without payment of any consideration; provided, however, that this grant of an option to take foreign rights in the invention, or applications or other forms of protection thereon, shall have force and effect only as to foreign countries in which an application or other form of protection is filed, or which are designated in a Patent Cooperation Treaty application filed within six months of the filing date of any application for United States Letters Patent covering the invention, or within six months from the declassification of the invention, whichever is later, and that all foreign rights not exercised under the option are left to me (us) subject to a nonexclusive, irrevocable, royalty-free license to the Government in any patent or other form of protection which may issue on said invention in any foreign country, including the power to issue sub-licenses for use in behalf of the Government and or/ in furtherance of the foreign policies of the Government.

I (We) hereby further agree to make, execute, and deliver to the Government, any and all papers, documents, affidavits, statements, or other instruments that may be necessary in the prosecution of the application and of any continuations, division or substitution of the application, or any application for reissue or extension of said Letters Patent, and to assist the Government in every way in protecting the invention as may be requested, provided that any expenses arising through such efforts will be paid by the Government.

IN TESTIMONY WHEREOF,	l (we) have set my	(our) hand(s)	and affixed r	ny (our) seal(s).
			-	

1 1	-1 /	11	1	2
8 5/98(date)	Jadansa	. (00,	al_	(signature) SEAL
<del>7</del>	Dr. Tadeusz Koćl	nel,		
[0] 23/95_(date)	CALL O	yoe_		(signature) SEAL
	Dr. Qurtis Hayes	/		
[25] SK (date)	1KOV			(signature) SEAL
	Dr. Stephen Hoff	man 🔥		
12-26 <u>98 (</u> date)	Jer D	Lox		(signature) SEAL
	Ør. Kevin Porter			

Standard Assignment , Foreign Rights Option

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PATENT REEL: 013227 FRAME: 0208

Appl. Serial No. 08/869,423

## ASSIGNMENT OF INVENTION

WHEREAS, I Kanakatte Raviprakash, of Silver Spring, MD while employed by the Government of the United States of America, hereinafter referred to as the Government, have invented certain new and useful improvements in DENGUE NUCLEIC ACID VACCINES THAT INDUCE NEUTRALIZING ANTIBODIES identified as Navy Case No. 77,654 and described in application for Letters Patent of the United States of America executed by me (us) on 04 June 1997, having United States Patent Application Serial No. 08/869,423 filed 04 June 1997; and

WHEREAS, the Government is desirous of acquiring an assignment of the invention disclosed in said application and other rights and benefits herein granted; and

WHEREAS, the conditions under which the invention was made are such as to entitle the Government under Paragraph 1(a) of Executive Order 10096, to the entire right, title, and interest therein, including foreign rights; and

WHEREAS, as to foreign rights, it is the policy of the Government to obtain an option to exercise such rights;

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration the receipt of which is hereby acknowledged, I (we) hereby assign and transfer to the United States of America as represented by the Secretary of the Navy the entire right title, and interest in and to said invention within the United States of America its territories and possessions, and the entire right, title, and interest in and to said application and any continuation, division or substitution thereof, and such Letters Patents as may issue therefrom and any reissue or extensions thereof, said invention, application and Letters Patent to be held by the United States of America as represented by the Secretary of the Navy to the end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this assignment not been made.

I do hereby also grant unto the Government, the option to take the entire right, title, and interest in the invention and all patent applications or other forms of protection thereon in all countries foreign to the United States of America in which the Government may file, or cause to be filed, applications for Letters Patent or other forms of protection, without payment of any consideration; provided, however, that this grant of an option to take foreign rights in the invention, or applications or other forms of protection thereon, shall have force and effect only as to foreign countries in which an application or other form of protection is filed, or which are designated in a Patent Cooperation Treaty application filed within six months of the filing date of any application for United States Letters Patent covering the invention, or within six months from the declassification of the invention, whichever is later, and that all foreign rights not exercised under the option are left to me (us) subject to a nonexclusive, irrevocable, royalty-free license to the Government in any patent or other form of protection which may issue on said invention in any foreign country, including the power to issue sub-licenses for use in behalf of the Government and or/ in furtherance of the foreign policies of the Government.

I hereby further agree to make, execute, and deliver to the Government, any and all papers, documents, affidavits, statements, or other instruments that may be necessary in the prosecution of the application and of any continuations, division or substitution of the application, or any application for reissue or extension of said Letters Patent, and to assist the Government in every way in protecting the invention as may be requested, provided that any expenses arising through such efforts will be paid by the Government.

IN TESTIMONY WHEREOF, I have set my (our) hand(s) and affixed my (our) seal(s).

KANAKATTE RAVIPRAKASH \_6/11/02 \_\_(date) \_\_

\_\_(date) \_\_\_\_\_\_(signature) SEAL

Standard Assignment , Foreign Rights Option

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### PATENT REEL: 013227 FRAME: 0209

BOX ISSUE FEE

Atty. Docket No. 77,654

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Kochel, et al.

Group Art Unit: 1648

Serial No.: 08/869,423

Filed: 06/04/97

For: DENGUE NUCLEIC ACID VACCINES THAT INDUCE NEUTRALIZING ANTIBODIES

#### TRANSMITTAL LETTER

The Commissioner for Patents Washington, D.C. 20231

Sir:

Submitted herewith for filing in the U.S. Patent and Trademark Office is the following:

- (1) Transmittal Letter; and
- (2) Assignments and Recordation Sheet.

The Commissioner is hereby authorized to charge any deficiency or credit any excess to Deposit Account No. 14-0595.

Respectfully submitted,

By:

Philip 2: Ketner Registration No. 46,272 Customer No. 22245

Date: August 14, 2002

**RECORDED: 08/14/2002**