503168804 02/06/2015

PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
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| NORMAN LETVIN | 10/21/2008 |

RECEIVING PARTY DATA

| Name: | BETH ISRAEL DEACONESS MEDICAL CENTER |
|-----------------|--------------------------------------|
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PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13399963 |

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| ATTORNEY DOCKET NUMBER: | BJS-1579-1782 |
|-------------------------|----------------|
| NAME OF SUBMITTER: | B. J. SADOFF |
| SIGNATURE: | /B. J. Sadoff/ |
| DATE SIGNED: | 02/06/2015 |

Total Attachments: 2

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PATENT 503168804 REEL: 034904 FRAME: 0989

Nixon & Vanderhye P.C. 901 North Glebe Road Eleventh Floor Arlington, VA 22203-1808 Attorney Dkt: 01579-1300

ASSIGNMENT of U.S. Origin Patent Application

| 1) Norman LETVIN |
|---|
| |
| (hereinafter collectively ASSIGNOR), together with Bette T. KORBER, Simon PERKINS, |
| Tanmoy BHATTACHARYA, William M. FISCHER, James THEILER, Barton F. HAYNES, |
| Beatrice H. HAHN, Karina YUSIM and Carla KUIKEN, have made an invention known as |
| Dkt. 01579-1300 and entitled: POLYVALENT VACCINE for which an application for Letters |
| Patent of the United States |
| was executed even date herewith and is about to be filed in the United States Patent and |
| Trademark Office; |
| was filed on February 8, 2008, U.S. Application No. 11/990,222, which is a 371 of |
| International Patent Application No. PCT/US2006/032907, filed August 23, 2006, which |
| claims priority from U.S. Provisional Application No. 60/710,150, filed August 23, 2005 and |
| U.S. Provisional Application No. <u>60/739,413</u> , filed <u>November 25, 2005</u> ; |

AND WHEREAS <u>BETH ISRAEL DEACONESS MEDICAL CENTER</u>, 330 <u>Brookline Avenue</u>, <u>Boston</u>, <u>Massachusetts 02215</u>

(hereinafter ASSIGNEE), desires to acquire an interest therein;

NOW, THEREFORE, in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the said ASSIGNOR, does hereby sell, assign and transfer unto ASSIGNEE, its entire right, title and interest to the said invention in the aforesaid application, and to the said application and to all continuations, divisions, reissues and substitutes of said application, and foreign counterparts thereof, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres,

PATENT REEL: 034904 FRAME: 70990 and ASSIGNOR hereby authorizes and requests the Commissioner of Patents to issue said Letters Patent to ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives.

AND ASSIGNOR hereby agrees to execute any papers requested by ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

ASSIGNOR furthermore agrees upon request of said ASSIGNEE, and without further remuneration, to execute any and all papers desired by said ASSIGNEE for the filing and granting of foreign applications and the perfecting of title thereto in said ASSIGNEE.

The undersigned hereby authorize(s) Nixon & Vanderhye P.C. of the above address to insert hereon any further identification necessary or desirable for recordation of this document.

Executed on the date(s) below indicated.

Date Signed Witness

15(21/08 (Ucolification) Date Signed

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PATENT REEL: 034904 FRAME: 0991