12-16-1999 ORM PTO-1595 U.S. DEPARTMENT OF COMMERCE 15127.P05 WM PATENT AND TRADEMARK OFFICE 12.3.9 To the Honorable Commissioner of Pa iginal documents or copy thereof. 101224930 . receiving party(ies) Name of Conveying party(ies): **INSTITUT PASTEUR** INSTITUT NATIONAL DE LA SANTÉ ET DE LA RECHERCHE MÉDICALE (INSERM) additional name(s) of conveying party(ies) attached Internal Address:_ . Nature of conveyance: Street Address: 101, RUE DE TOLBIAC ___ Merger X Assignment 75654 PARIS CEDEX 13, FRANCE ___ Change of Name __ Security Agreement __ State:_____ZIP:___ ___ Other___ Additional name(s) and address(es) attached? X Yes No xecution Date: December 1, 1999 . Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is:____ A. Patent Application No.(s) B. Patent No.(s) 08/737,588 Additional numbers attached: ___ Yes X_ No Name and address of party to whom correspondence concerning 6. Total number of applications and patents involved: 1 document should be mailed: 7. Total Fee (37 CFR 3.41).....\$\,\u00e40.00 Neil F. Greenblum X Enclosed Internal Address: P15127 Authorized to be charged to deposit account 8. Deposit account number: Street Address: GREENBLUM & BERNSTEIN, P.L.C. 1941 Roland Clarke Place (Attach duplicate copy of this page if paying by deposit account) City: Reston State: VA ZIP: 20191

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Statement and signature.

Neil F. Greenblum, Reg. No. 28,394 Name of Person Signing

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Total number of pages including cover sheet, attachments and document: 4

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Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents & Trademarks, Box Assignments

Washington, D.C. 20231

LISTING OF ADDITIONAL RECEIVING PARTIES

Name: INSTITUT PASTEUR DE LILLE

Street address: 1, rue du Professeur Calmette B. P., 245 59019 Lille Cedex, France

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PATENT
+ REEL: 010434 FRAME: 0583

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ASSIGNMENT

WHEREAS, Institut Pastour, a French foundation organized and existing under the laws of the State of Prence, whose post office address is 28, rue du Docteur Roux 75724 Paris Cedex 15, France, havingfier referred to as the ASSIGNOR, is assigning their rights of a certain improvement relating to

SHUTTLE VECTORS FOR THE INTRODUCTION OF DNA INTO MYCOBACTERIA AND UTILIZATION OF SUCH BACTERIA AS VACCINES

for which an application for Letters Patent of the United States Which was filed in the United States Patent and Trademark Office on Fobruary 12, 1997 and was awarded Serial No. 08/737,588.

AND for which an assignment from Vincent ESCUYER. Alain BAULARD, Panick BERCHE, Camillo LOCHT, and Nadia HADDAD, in favor of Institut National de la Santé et de la Recherche Médicale, Institut Pasteur, and Institut Pasteur de Lille, has been recorded at Reel 9524, Prame 0891 (for four pages) on October 21, 1998;

AND WHEREAS, Institut National de la Senté et de la Recherche Médicale (INSERM), a Public, Scientific and Technical Establishment organized and existing under the laws of the State of France, whose post office address is 101, rue de Toibiac, 75634 Paris Cedex 13, France, and Institut Pasteur du Lille, a foundation organized and existing under the laws of the State of France, whose post office address is 1, rue du Professeur Calmette B.P. 245 59019 Lille Cedex, France, have institut for the United States in and to said invention and application, proviously assigned to Institut Pasteur, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, and prolongations thereof.

NOW, THIS WITNESSETH that for and in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt whereof is hereby soknowledged, said ASSIGNOR hereby assign, sell and transfer to said ASSIGNEES, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, for the United States including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, said ASSIGNEES and its assigns and legal representatives to have, hold, exercise and enjoy the said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges, and adventages in any ways arising from or pertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, and prolongations thereof, for the use and benefit of said ASSIGNEES and its assigns and legal representatives in as simple and beneficial a manner to all intents and purposes as the said ASSIGNOR might or could have held and enjoyed the same, if this assignment had not been made.



PATENT

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AND said ASSIGNOR hereby agree to execute all papers necessary to file applications in the United States for said invention and to easign the same to said ASSIGNRES, or any assignee acquiring title to said invention, and to execute any other papers that may be seeded in connection with filing said application and securing Letters Patent thereon.

AND and ASSIGNOR authorizes and requests the Commissioner of Patents to issue Letters Patent on sald application, and on any and all divisions and continuations thereof, to said ASSIGNEES, its assigns and logal representatives, in accordance herewith.

IN TESTIMONY WHEREOF, this assignment is executed by an authorized Signer of Institut Pastour, this Ast day of DECAMER 1999, at (address) 28, rue du Doctour Roux 75724 Paris Cedex 15, France.

Witnessed by:

Florence

Anthonised Signee for Institut Pastour

ALAIN GALLOCHAT

TIME GENERAL COUNSEL



PATENT REEL: 010434 FRAME: 0585

RECORDED: 12/03/1999