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Name (line 1) Howard Hughes Medical Institute					<u> </u>	02 12 01		
	Name (line 2) Execution Date							
Second Party Name (line 1)						Month Day Year		
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Re	Receiving Party Mark if additional names of receiving parties attached							
1	Name (line 1) Albert Einstein College of Medicine of Yeshiva University If document to is an assignment to the second sec							
1	Name (line 2)					recelving party is not domiciled in the United States, an appointment		
Add	dress (line 1)	1300 Morris Park Avenue				of a domestic representative is attached (Designation must be a		
Add	dress (line 2) F	ess (line 2) Bronx (Designation must separate docume Assignment.)						
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	Address (line 3) New York New York 10461 City State/Country Zip Code							
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Name Craig J. Arnold								
Address (line 1) Amster, Rothstein & Ebenstein								
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> PATENT REEL: 011600 FRAME: 0876

FORM PTC Expires 06/30/99 OMB 0651-0027)-1619B	Page 2	U.S. Department of Commerce Patent and Trademark Office PATENT
Correspond	ent Name and Address	Area Code and Telephone Number	(212) 697-5995
Name	Craig J. Arnold		
Address (line 1)	Amster, Rothstein & Ebenste	in	
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Address (line 3)	New York, New York 10016		,
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Patent Coop	eration Treaty (PCT)	PCT PCT	РСТ
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attache		lief, the foregoing information is true a riginal document. Charges to deposit	-
Craig .	J. Arnold	Large Climbs	March 5, 2001
Name	of Person Signing	Signature	Date

ASSIGNMENT

WHEREAS, Howard Hughes Medical Institute (hereinafter "the Assignor"), having a principal place of business at 4000 Jones Bridge Road, Chevy Chase, Maryland 20815-6789, U.S.A., has ownership rights in U.S. Patent Application No. 09/350,048, filed July 8, 1999, entitled ONE STEP ALLELIC EXCHANGE IN MYCOBACTERIA USING IN VITRO GENERATED CONDITIONAL TRANSDUCING PHAGES, the invention described therein, and each and every patent that can be issued on said application and on said invention in the United States of America and in its territories and possessions, and in all countries foreign to the United States of America, by virtue of an Assignment from William R. Jacobs, Jr. to Howard Hughes Medical Institute, executed September 23, 1999; and

WHEREAS, Albert Einstein College of Medicine of Yeshiva University (hereinafter "the Assignee"), having a principal place of business at 1300 Morris Park Avenue, Bronx, New York 10461, U.S.A., is desirous of acquiring Howard Hughes Medical Institute's entire right, title and interest in and to said application and the invention described therein, and each and every patent that can be issued on said application and on said invention in the United States of America and in its territories and possessions, and in all countries foreign to the United States of America;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for and in consideration of One Dollar (\$1.00), in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, the Assignor has sold, assigned and transferred, and by these presents does hereby sell, assign and transfer unto the Assignee its full and exclusive right, title and interest in and to the aforesaid applications, the aforesaid inventions, and each and every patent that may be issued on the aforesaid inventions and applications in the United States of America, and in its territories and possessions and also in all countries foreign to the United States of America, the same to be held and enjoyed by the Assignee for its own use and benefit, and for the use and benefit of its successors, assigns or other legal representatives to the end of the term or terms for which a patent or patents may be granted as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment had not been made.

88271.1

PATENT REEL: 011600 FRAME: 0878 Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all Letters Patent on the aforesaid inventions or resulting from the aforesaid applications directly to the Assignee.

Assignor hereby authorizes the Assignee and its successors to apply for a patent or patents directly in its own name upon the aforesaid inventions wherever the same is permitted by law, and also assigns, sells, transfers and sets over unto the Assignee and its successors all priority rights under the aforesaid applications.

Assignor further covenants to execute all additional instruments and to do all things necessary to carry out the purpose of this instrument, at the expense of the Assignee and its successors.

IN WITNESS WHEREOF, Assignor has hereunto set his hands and affixed his seal this day of 12 FGB , 2001.

HOWARD HUGHES MEDICAL INSTITUTE

Name: Gerald M. Rubin, Ph.D.

Title: Vice President for Biomedical Research

STATE OF) ss.:
COUNTY OF)

RECORDED: 03/06/2001

On this day of , 2001, before me came Gerald M. Rubin, known to me to be the individual described in, and who executed, the foregoing instrument, and he acknowledged to me that he had executed the same.

Notary Public