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To the Ho	norable Commissioner of Patents

03-08-2002

U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office 102007377 norable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies) Alan Engelman Name: Dana-Farber Cancer Institute, Inc. Wolfgang Hofmann Internal Address: \_\_\_\_\_\_ Joseph G. Sodroski Richard Lu Additional name(s) of conveying party(ies) attached? 
Yes 
No 3. Nature of conveyance: Assignment ■ Merger Street Address: 44 Binney Street Security Agreement ☐ Change of Name Other\_\_\_\_ City: Boston State: MA Zip: 02115 Execution Date: 12/26/01, 1/2/02 and 1/25/02 4. 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) 09/990,879 Additional numbers attached? Yes No 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved: 1 concerning document should be mailed: 7. Total fee (37 CFR 3.41).....\$ 40.00 Name: Ronald I. Eisenstein Enclosed Internal Address: Nixon Peabody LLP Authorized to be charged to deposit account 8. Deposit account number: Street Address: 101 Federal Street 50-8050 (Attach duplicate copy of this page if paying by deposit account) City: Boston State: MA Zip: 02110 DO NOT USE THIS SPACE 9. Statement and signature. 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. Ronald I. Eisenstein, Reg. No. 30,628

Name of Person Signing

03/08/2002 LMUELLER 00000080 09990879

Total number of pages including cover sheet, attachments, and documents Mail documents to be recorded with required cover sheet information to:

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mmissioner of Patents & Trademarks, Box Assignments Washington, D.C. 20231

PATENT

REEL: 012637 FRAME: 0555

## **ASSIGNMENT**

WHEREAS, We, Alan Engelman, a United States citizen, residing at 20 Stearns Road, #64, Brookline, MA 02446, Wolfgang Hofmann, a German citizen, residing at Goerdelestrasse 105, 53123 Bonn Germany, Joseph G. Sodroski, a United States citizen, residing at 10 Ashland Street, Medford, MA 02155, and Richard Lu, a United States citizen, residing at 50 Spring Park Avenue, Jamaica Plain, MA 02130, have invented certain new and useful improvements in EPISOMALLY REPLICATING LENTIVIRAL VECTORS for which we have executed an application for Letters Patent in the United States, filed as U.S. Serial Number 09/990,879 on November 21, 2001;

AND WHEREAS, Dana-Farber Cancer Institute, Inc., a Massachusetts corporation, with its principal place of business at 44 Binney Street, Boston, MA 02115, desires to acquire the entire right, title and interest in and to the said improvements and the said Application:

NOW, THEREFORE, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt of which is hereby acknowledged, we, the said inventors, do hereby acknowledge that we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said Dana-Farber Cancer Institute, Inc., its successors, legal representatives and assigns, the entire right, title and interest throughout the world in, to and under the said improvements, and the said application and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and we hereby authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue Patents on applications as aforesaid, to issue all Letters Patent for said improvements to the said Dana-Farber Cancer Institute, Inc., its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we will communicate to the said Dana-Farber Cancer Institute, Inc., its successors, legal representatives and assigns, any facts known to us respecting said improvements and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and generally do everything possible to aid the said Dana-Farber Cancer Institute, Inc., its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said improvements in all countries.

The undersigned hereby grant(s) the law firm of Nixon Peabody LLP of 101 Federal Street, Boston, Massachusetts 02110, U.S.A. the power to insert on this Assignment any further

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PATENT REEL: 012637 FRAME: 0556

IN TESTIMONY WHEREOF, I, A  2 day of January, 2002.	lan Engelman, hereunto set my hand and seal this
/	algh
	Alan Engelman
STATE OF MASSAchuse ITS COUNTY OF School SS:	
This Z day of January named Alan England, to executed the same of his/her own free will	, 2002, before me personally came the above- o me personally known as the individual who for the purposes therein set forth.
	Notary Public Thursday
	MICHAEL F MURPHY MY COMMISSION EXPIRES SEPT. 13, 2007
IN TESTIMONY WHEREOF, I, W day of, 20	Volfgang Hofmann, hereunto set my hand and seal this
	Wolfgang Hofmann
STATE OF SS:	
This day of, t executed the same of his/her own free will	, 20, before me personally came the above- to me personally known as the individual who for the purposes therein set forth.
	Notary Public

identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark, Office for recordation of this document.

PATENT REEL: 012637 FRAME: 0557

N TESTIMONY WHEREOF, I, Joseph G. Sodroski, hereunto set my hand and seal this day of December, 2001.
Joseph G. Sodroski
COUNTY OF Sutto IK SS:
This 24 day of, 2001, before me personally came the above- named, So dock,, to me personally known as the individual who executed the same of his/her own free will for the purposes therein set forth.
Notary Public  MICHAEL F MURPHY MY COMMISSION EXPIRES SEPT. 13, 2007
N TESTIMONY WHEREOF, I, Richard Lu, hereunto set my hand and seal this 2 day of Songer, 2004
Richard Lu
COUNTY OF Sicholk SS:
This 2 day of January, 2002, before me personally came the above- named Ridard Ly to me personally known as the individual who executed the same of his/her own free will for the purposes therein set forth.
Notary Public F. hurphy
MICHAEL F MURPHY

MICHAEL F MURPHY
MY COMMISSION EXPIRES
SEPT. 13, 2007

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## **ASSIGNMENT**

WHEREAS, We, Alan Engelman, a United States citizen, residing at 20 Stearns Road, #64, Brookline, MA 02446, Wolfgang Hofmann, a German citizen, residing at Goerdelestrasse 105, 53123 Bonn Germany, Joseph G. Sodroski, a United States citizen, residing at 10 Ashland Street, Medford, MA 02155, and Richard Lu, a United States citizen, residing at 50 Spring Park Avenue, Jamaica Plain, MA 02130, have invented certain new and useful improvements in EPISOMALLY REPLICATING LENTIVIRAL VECTORS for which we have executed an application for Letters Patent in the United States, filed as U.S. Serial Number 09/990,879 on November 21, 2001;

AND WHEREAS, Dana-Farber Cancer Institute, Inc., a Massachusetts corporation, with its principal place of business at 44 Binney Street, Boston, MA 02115, desires to acquire the entire right, title and interest in and to the said improvements and the said Application:

NOW, THEREFORE, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt of which is hereby acknowledged, we, the said inventors, do hereby acknowledge that we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said Dana-Farber Cancer Institute, Inc., its successors, legal representatives and assigns, the entire right, title and interest throughout the world in, to and under the said improvements, and the said application and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and we hereby authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue Patents on applications as aforesaid, to issue all Letters Patent for said improvements to the said Dana-Farber Cancer Institute, Inc., its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we will communicate to the said Dana-Farber Cancer Institute, Inc., its successors, legal representatives and assigns, any facts known to us respecting said improvements and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and generally do everything possible to aid the said Dana-Farber Cancer Institute, Inc., its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said improvements in all countries.

The undersigned hereby grant(s) the law firm of Nixon Peabody LLP of 101 Federal Street, Boston, Massachusetts 02110, U.S.A. the power to insert on this Assignment any further

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PATENT REEL: 012637 FRAME: 0559

identification which may be necessary or de Patent and Trademark, Office for recordation	esirable in order to comply with the rules of the U.S. on of this document.
IN TESTIMONY WHEREOF, I, Alday of, 20	lan Engelman, hereunto set my hand and seal this
	Alan Engelman
STATE OF SS:	
This day of, to executed the same of his/her own free will	, 20, before me personally came the above- o me personally known as the individual who for the purposes therein set forth.
	Notary Public
25 IN TESTIMONY WHEREOF, I, W day of <u>formary</u> , 20 <u>02</u>	Volfgang Hofmann, hereunto set my hand and seal this  Wolfgang Hofmann
STATE OF SS:	
This 25 day of James , t executed the same of his/her own free will	, 20 <u>62</u> , before me personally came the above- to me personally known as the individual who for the purposes therein set forth.
B. Lul-l	Witnessed Witnessed
Bernd Sciferling Novarhis Ab/EIBA V.	s i on
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bermany	2 PATENT

REEL: 012637 FRAME: 0560

	Y WHEREOF, I,		. Sodroski, hereunto set my hand and seal this
			Joseph G. Sodroski
STATE OF			
COUNTY OF _		SS:	
This named executed the san	day of	, t free will	, 20, before me personally came the above- to me personally known as the individual who for the purposes therein set forth.
			P. P. Commission of the Commis
			Notary Public
	Y WHEREOF, I,		Lu, hereunto set my hand and seal this
			Richard Lu
STATE OF			
COUNTY OF _		SS:	
named		, t	, 20, before me personally came the above- to me personally known as the individual who for the purposes therein set forth.
			Notary Public

PATENT REEL: 012637 FRAME: 0561

**RECORDED: 02/26/2002**