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Express Mail Number: EL 501 742 263 US

<b>MRD</b> <b>2/22/2</b>		<b>03-11-2002</b>  <b>102009285</b> Box Assignment Washington, DC 20231	Attorney Docket Number <u>7853-226-999</u>
TO THE HONOR		TRADEMARKS	
Please record the attached original documents or copy thereof.			
<b>1. Name of conveying party(ies):</b> Douglas A. Holtzman    Thomas M. Barnes John D. Sharp          Christopher C. Fraser Kevin R. Leiby        Nicholas Wright Steven Bossone        Paul S. Myers Yang Pan                Gillian Kingsbury  Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>2. Name and address of receiving party(ies):</b> Name: <u>Millennium Pharmaceuticals, Inc.</u>  Address: <u>75 Sidney Street</u>  <u>Cambridge, Massachusetts 02139</u>  Country (if other than USA): _____	
<b>3. Nature of conveyance:</b> <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____  Execution Date: <u>October 24, 2001</u> <u>October 29, 2001</u> <u>October 24, 2001</u> <u>October 29, 2001</u> <u>October 24, 2001</u> <u>October 30, 2001</u> <u>October 22, 2001</u> <u>October 30, 2001</u> <u>November 16, 2001</u> <u>November 16, 2001</u> , respectively			
<b>4. Application number(s) or patent number(s):</b> If this document is being filed together with a new application, the execution date of the application is: _____ A. Patent Application No(s) <u>09/796,858 filed March 1, 2001</u> B. Patent No(s) _____ Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
<b>5. Name and address of party to whom correspondence concerning document should be mailed:</b>  PENNIE & EDMONDS LLP 1155 Avenue of Americas New York, N.Y. 10036-2711		<b>6. Number of applications and patents involved:</b> <u>One</u>  <b>7. Total fee (37 CFR 3.41):</b> .....\$ <u>40.00</u> Please charge to the deposit account listed in Section 8.  <b>8. Deposit account number:</b> <u>16-1150</u>	
<b>DO NOT USE THIS SPACE</b>			
<b>9. Statement and signature.</b>  <i>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.</i>  <u>Laura A. Coruzzi</u> 30,742 <u>Laura A. Coruzzi</u> February 22, 2002 Name of Person Signing              Reg. No.                      Signature                      Date <u>Thomas C. Fraser</u> <u>Reg. No. 39,201</u> Total number of pages (including cover sheet with duplicate):                      42			

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignment  
Washington, D.C. 20231

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09796858

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PATENT  
REEL: 012638 FRAME: 0572

NY2 - 1284886.1

## ASSIGNMENT

WHEREAS, WE, **Douglas A. Holtzman** (a citizen of the United States, residing at 821 Centre Street, #6, Jamaica Plain, MA 02130); **John D. Sharp** (a citizen of the United States, residing at 245 Park Avenue, Arlington, MA 02476); **Kevin R. Leiby** (a citizen of the United States, residing at 4 Showhegan Way, Natick, MA 01760); **Steven Bossone** (a citizen of the United States, residing at 91 Bacon Street, Winchester, MA 01890); **Yang Pan** (a citizen of the People's Republic of China, residing 5308 135<sup>th</sup> Place SE, Bellevue, WA 98006); **Thomas M. Barnes** (a citizen of Australia, residing at 22 Hanson St. #2, Boston, MA 02118); **Christopher C. Fraser** (a citizen of the United States, residing at 52 Grassland Street, Lexington, MA 02421); **Nicholas Wrighton** (a citizen of the United Kingdom, residing at 18 Lloyd Street, Winchester, MA 01890); **Paul S. Myers** (a citizen of the United States, residing at 171 South Street, Unit 17A, Jamaica Plain, MA 02130); and **Gillian Kingsbury** (a citizen of the United Kingdom, residing at 23 Fletcher Street, Roslindale, MA 02131), ASSIGNORS, are the inventors of the invention in **NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC, DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES** for which we have executed an application for a Patent of the United States

- ☐ which is executed on ☐ even date herewith or ☐ \_\_\_\_\_  
☒ which is identified by Pennie & Edmonds LLP docket no. **7853-226-999**  
☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention 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 and Trademarks of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date 10/24, 2001 Douglas A. Holtzman L.S.  
**DOUGLAS A. HOLTZMAN**

State of Massachusetts  
 County of Middlesex } SS.:

On Oct. 24, 2001, before me, Simone Coriveau, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Simone Coriveau  
 My Commission expires: 9/1/2006

Date \_\_\_\_\_, 2001 JOHN D. SHARP L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 KEVIN R. LEIBY L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **KEVIN R. LEIBY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 STEVEN BOSSONE L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **STEVEN BOSSONE**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**YANG PAN**

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**THOMAS M. BARNES**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**CHRISTOPHER C. FRASER**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the  
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capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**NICHOLAS WRIGHTON**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**PAUL S. MYERS**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**GILLIAN KINGSBURY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **GILLIAN KINGSBURY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

ASSIGNMENT

WHEREAS, WE, **Douglas A. Holtzman** (a citizen of the United States, residing at 821 Centre Street, #6, Jamaica Plain, MA 02130); **John D. Sharp** (a citizen of the United States, residing at 245 Park Avenue, Arlington, MA 02476); **Kevin R. Leiby** (a citizen of the United States, residing at 4 Showhegan Way, Natick, MA 01760); **Steven Bossone** (a citizen of the United States, residing at 91 Bacon Street, Winchester, MA 01890); **Yang Pan** (a citizen of the People's Republic of China, residing 5308 135<sup>th</sup> Place SE, Bellevue, WA 98006); **Thomas M. Barnes** (a citizen of Australia, residing at 22 Hanson St. #2, Boston, MA 02118); **Christopher C. Fraser** (a citizen of the United States, residing at 52 Grassland Street, Lexington, MA 02421); **Nicholas Wrighton** (a citizen of the United Kingdom, residing at 18 Lloyd Street, Winchester, MA 01890); **Paul S. Myers** (a citizen of the United States, residing at 171 South Street, Unit 17A, Jamaica Plain, MA 02130); and **Gillian Kingsbury** (a citizen of the United Kingdom, residing at 23 Fletcher Street, Roslindale, MA 02131), ASSIGNORS, are the inventors of the invention in **NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC, DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES** for which we have executed an application for a Patent of the United States

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☒ which is identified by Pennie & Edmonds LLP docket no. **7853-226-999**  
☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof;

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IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**DOUGLAS A. HOLTZMAN**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

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WITNESS my hand and official seal

Date Oct. 24, 2001, 2001 John D. Sharp L.S.  
JOHN D. SHARP

State of Massachusetts  
County of Middlesex SS.:

On Oct 24, 2001, before me, Suzanne Corriveau, Notary Public, personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal  
Suzanne Corriveau  
My Commission expires: 9/1/2006

Date \_\_\_\_\_, 2001 KEVIN R. LEIBY L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

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WITNESS my hand and official seal

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State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

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Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**YANG PAN**

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
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Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**THOMAS M. BARNES**

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Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
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County of \_\_\_\_\_ ) SS.:

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☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

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IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**DOUGLAS A. HOLTZMAN**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Date \_\_\_\_\_, 2001 JOHN D. SHARP L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

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WITNESS my hand and official seal

Date 10-24, 2001 Kevin R. Leiby L.S.  
**KEVIN R. LEIBY**

State of Massachusetts  
County of Middlesex ) SS.:

On Oct. 24, 2001, before me, Simonne Corriveau, Notary Public, personally appeared **KEVIN R. LEIBY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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Simonne Corriveau  
My Commission expires: 9/1/2006

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County of \_\_\_\_\_ ) SS.:

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Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**YANG PAN**

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**THOMAS M. BARNES**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**CHRISTOPHER C. FRASER**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the  
person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.

**NICHOLAS WRIGHTON**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.

**PAUL S. MYERS**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.

**GILLIAN KINGSBURY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **GILLIAN KINGSBURY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

## ASSIGNMENT

WHEREAS, WE, **Douglas A. Holtzman** (a citizen of the United States, residing at 821 Centre Street, #6, Jamaica Plain, MA 02130); **John D. Sharp** (a citizen of the United States, residing at 245 Park Avenue, Arlington, MA 02476); **Kevin R. Leiby** (a citizen of the United States, residing at 4 Showhegan Way, Natick, MA 01760); **Steven Bossone** (a citizen of the United States, residing at 91 Bacon Street, Winchester, MA 01890); **Yang Pan** (a citizen of the People's Republic of China, residing 5308 135<sup>th</sup> Place SE, Bellevue, WA 98006); **Thomas M. Barnes** (a citizen of Australia, residing at 22 Hanson St. #2, Boston, MA 02118); **Christopher C. Fraser** (a citizen of the United States, residing at 52 Grassland Street, Lexington, MA 02421); **Nicholas Wrighton** (a citizen of the United Kingdom, residing at 18 Lloyd Street, Winchester, MA 01890); **Paul S. Myers** (a citizen of the United States, residing at 171 South Street, Unit 17A, Jamaica Plain, MA 02130); and **Gillian Kingsbury** (a citizen of the United Kingdom, residing at 23 Fletcher Street, Roslindale, MA 02131), ASSIGNORS, are the inventors of the invention in **NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC, DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES** for which we have executed an application for a Patent of the United States

- ☐ which is executed on ☐ even date herewith or ☐ \_\_\_\_\_  
☒ which is identified by Pennie & Edmonds LLP docket no. **7853-226-999**  
☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention 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 and Trademarks of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**DOUGLAS A. HOLTZMAN**

State of \_\_\_\_\_ )  
 County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Date \_\_\_\_\_, 2001 JOHN D. SHARP L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Date \_\_\_\_\_, 2001 KEVIN R. LEIBY L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **KEVIN R. LEIBY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

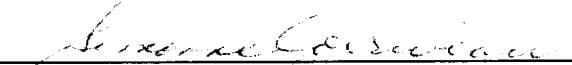
WITNESS my hand and official seal

Date October 22, 2001  L.S.  
**STEVEN BOSSONE**

State of Massachusetts  
County of Worcester } SS.:

On 10/22, 2001, before me, Domenic Carriveau, Notary Public, personally appeared **STEVEN BOSSONE**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

  
My Commission expires: 9/1/2006

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**YANG PAN**

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**THOMAS M. BARNES**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**CHRISTOPHER C. FRASER**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the  
person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_



Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**NICHOLAS WRIGHTON**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**PAUL S. MYERS**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**GILLIAN KINGSBURY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **GILLIAN KINGSBURY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

## ASSIGNMENT

WHEREAS, WE, **Douglas A. Holtzman** (a citizen of the United States, residing at 821 Centre Street, #6, Jamaica Plain, MA 02130); **John D. Sharp** (a citizen of the United States, residing at 245 Park Avenue, Arlington, MA 02476); **Kevin R. Leiby** (a citizen of the United States, residing at 4 Showhegan Way, Natick, MA 01760); **Steven Bossone** (a citizen of the United States, residing at 91 Bacon Street, Winchester, MA 01890); **Yang Pan** (a citizen of the People's Republic of China, residing 5308 135<sup>th</sup> Place SE, Bellevue, WA 98006); **Thomas M. Barnes** (a citizen of Australia, residing at 22 Hanson St. #2, Boston, MA 02118); **Christopher C. Fraser** (a citizen of the United States, residing at 52 Grassland Street, Lexington, MA 02421); **Nicholas Wrighton** (a citizen of the United Kingdom, residing at 18 Lloyd Street, Winchester, MA 01890); **Paul S. Myers** (a citizen of the United States, residing at 171 South Street, Unit 17A, Jamaica Plain, MA 02130); and **Gillian Kingsbury** (a citizen of the United Kingdom, residing at 23 Fletcher Street, Roslindale, MA 02131), ASSIGNORS, are the inventors of the invention in **NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC, DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES** for which we have executed an application for a Patent of the United States

- ☐ which is executed on ☐ even date herewith or ☐ \_\_\_\_\_  
☒ which is identified by Pennie & Edmonds LLP docket no. **7853-226-999**  
☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention 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 and Trademarks of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**DOUGLAS A. HOLTZMAN**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Date \_\_\_\_\_, 2001 JOHN D. SHARP L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 KEVIN R. LEIBY L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **KEVIN R. LEIBY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 STEVEN BOSSONE L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **STEVEN BOSSONE**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date 11/16/01, 2001 Yang Pan L.S.  
YANG PAN  
Date 11/16/01, 2001 Yang Pan  
Witnessed by  
Date 11/16/01, 2001 W. G. Z.  
Witnessed by

Date \_\_\_\_\_, 2001 THOMAS M. BARNES L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 CHRISTOPHER C. FRASER L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

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Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**NICHOLAS WRIGHTON**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

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Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**PAUL S. MYERS**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

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Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**GILLIAN KINGSBURY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

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WITNESS my hand and official seal

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ASSIGNMENT

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- ☐ which is executed on ☐ even date herewith or ☐ \_\_\_\_\_  
☒ which is identified by Pennie & Edmonds LLP docket no. 7853-226-999  
☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof;

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

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**DOUGLAS A. HOLTZMAN**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Date \_\_\_\_\_, 2001 JOHN D. SHARP L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 KEVIN R. LEIBY L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

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County of \_\_\_\_\_ ) SS.:

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WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 YANG PAN L.S.

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by

Date 10-29, 2001 Thomas M Barnes L.S.  
**THOMAS M. BARNES**

State of Massachusetts  
County of Middlesex ) SS.:

On October 29, 2001, before me, Simone Coriveau, Notary Public, personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Simone Coriveau  
My Commission expires: 9/1/2006

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**CHRISTOPHER C. FRASER**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_



Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**NICHOLAS WRIGHTON**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**PAUL S. MYERS**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**GILLIAN KINGSBURY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **GILLIAN KINGSBURY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

# ASSIGNMENT

*Chris for Oct 29, 2001*

WHEREAS, WE, **Douglas A. Holtzman** (a citizen of the United States, residing at 821 Centre Street, #6, Jamaica Plain, MA 02130); **John D. Sharp** (a citizen of the United States, residing at 245 Park Avenue, Arlington, MA 02476); **Kevin R. Leiby** (a citizen of the United States, residing at 4 Showhegan Way, Natick, MA 01760); **Steven Bossone** (a citizen of the United States, residing at 91 Bacon Street, Winchester, MA 01890); **Yang Pan** (a citizen of the People's Republic of China, residing 5308 135<sup>th</sup> Place SE, Bellevue, WA 98006); **Thomas M. Barnes** (a citizen of Australia, residing at 22 Hanson St. #2, Boston, MA 02118); **Christopher C. Fraser** (a citizen of the United States, residing at 52 Graftland Street, Lexington, MA 02421); **Nicholas Wrighton** (a citizen of the United Kingdom, residing at 18 Lloyd Street, Winchester, MA 01890); **Paul S. Myers** (a citizen of the United States, residing at 171 South Street, Unit 17A, Jamaica Plain, MA 02130); and **Gillian Kingsbury** (a citizen of the United Kingdom, residing at 23 Fletcher Street, Roslindale, MA 02131), ASSIGNORS, are the inventors of the invention in **NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC, DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES** for which we have executed an application for a Patent of the United States

- ☐ which is executed on ☐ even date herewith or ☐
- ☒ which is identified by Pennie & Edmonds LLP docket no. **7853-226-999**
- ☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention 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 and Trademarks of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 DOUGLAS A. HOLTZMAN L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 JOHN D. SHARP L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 KEVIN R. LEIBY L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **KEVIN R. LEIBY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 STEVEN BOSSONE L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **STEVEN BOSSONE**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 YANG PAN L.S.

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by

Date \_\_\_\_\_, 2001 THOMAS M. BARNES L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal


\_\_\_\_\_

Date October 29, 2001, 2001  L.S.  
**CHRISTOPHER C. FRASER**

State of Massachusetts  
County of Middlesex SS.:

On Oct 29, 2001, before me, Simone Corriveau, Notary Public,  
personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the  
person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

  
My Commission expires: 9/1/2006

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**NICHOLAS WRIGHTON**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**PAUL S. MYERS**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose  
name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and  
that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**GILLIAN KINGSBURY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **GILLIAN KINGSBURY**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized  
capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

## ASSIGNMENT

WHEREAS, WE, **Douglas A. Holtzman** (a citizen of the United States, residing at 821 Centre Street, #6, Jamaica Plain, MA 02130); **John D. Sharp** (a citizen of the United States, residing at 245 Park Avenue, Arlington, MA 02476); **Kevin R. Leiby** (a citizen of the United States, residing at 4 Showhegan Way, Natick, MA 01760); **Steven Bossone** (a citizen of the United States, residing at 91 Bacon Street, Winchester, MA 01890); **Yang Pan** (a citizen of the People's Republic of China, residing 5308 135<sup>th</sup> Place SE, Bellevue, WA 98006); **Thomas M. Barnes** (a citizen of Australia, residing at 22 Hanson St. #2, Boston, MA 02118); **Christopher C. Fraser** (a citizen of the United States, residing at 52 Grassland Street, Lexington, MA 02421); **Nicholas Wrighton** (a citizen of the United Kingdom, residing at 18 Lloyd Street, Winchester, MA 01890); **Paul S. Myers** (a citizen of the United States, residing at 171 South Street, Unit 17A, Jamaica Plain, MA 02130); and **Gillian Kingsbury** (a citizen of the United Kingdom, residing at 23 Fletcher Street, Roslindale, MA 02131), ASSIGNORS, are the inventors of the invention in **NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC, DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES** for which we have executed an application for a Patent of the United States

- ☐ which is executed on ☐ even date herewith or ☐ \_\_\_\_\_  
☒ which is identified by Pennie & Edmonds LLP docket no. **7853-226-999**  
☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention 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 and Trademarks of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 DOUGLAS A. HOLTZMAN L.S.

State of \_\_\_\_\_ )  
 County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**JOHN D. SHARP**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose  
name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and  
that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**KEVIN R. LEIBY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **KEVIN R. LEIBY**, personally known to me on the basis of satisfactory evidence to be the person whose  
name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and  
that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**STEVEN BOSSONE**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **STEVEN BOSSONE**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**YANG PAN**

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**THOMAS M. BARNES**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**CHRISTOPHER C. FRASER**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the  
person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_



Date 10/30/01, 2001 Nicholas Wrighton L.S.  
NICHOLAS WRIGHTON

State of Mass. )  
County of Worcester ) SS.:

On Oct 30, 2001, before me, Nicholas Wrighton, Notary Public, personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

[Signature]

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**PAUL S. MYERS**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**GILLIAN KINGSBURY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **GILLIAN KINGSBURY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

## ASSIGNMENT

WHEREAS, WE, **Douglas A. Holtzman** (a citizen of the United States, residing at 821 Centre Street, #6, Jamaica Plain, MA 02130); **John D. Sharp** (a citizen of the United States, residing at 245 Park Avenue, Arlington, MA 02476); **Kevin R. Leiby** (a citizen of the United States, residing at 4 Showhegan Way, Natick, MA 01760); **Steven Bossone** (a citizen of the United States, residing at 91 Bacon Street, Winchester, MA 01890); **Yang Pan** (a citizen of the People's Republic of China, residing 5308 135<sup>th</sup> Place SE, Bellevue, WA 98006); **Thomas M. Barnes** (a citizen of Australia, residing at 22 Hanson St. #2, Boston, MA 02118); **Christopher C. Fraser** (a citizen of the United States, residing at 52 Grassland Street, Lexington, MA 02421); **Nicholas Wrighton** (a citizen of the United Kingdom, residing at 18 Lloyd Street, Winchester, MA 01890); **Paul S. Myers** (a citizen of the United States, residing at 171 South Street, Unit 17A, Jamaica Plain, MA 02130); and **Gillian Kingsbury** (a citizen of the United Kingdom, residing at 23 Fletcher Street, Roslindale, MA 02131), ASSIGNORS, are the inventors of the invention in **NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC, DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES** for which we have executed an application for a Patent of the United States

- ☐ which is executed on ☐ even date herewith or ☐ \_\_\_\_\_  
☒ which is identified by Pennie & Edmonds LLP docket no. **7853-226-999**  
☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention 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 and Trademarks of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 DOUGLAS A. HOLTZMAN L.S.

State of \_\_\_\_\_ )  
 County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Date \_\_\_\_\_, 2001 JOHN D. SHARP L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 KEVIN R. LEIBY L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **KEVIN R. LEIBY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

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Date \_\_\_\_\_, 2001 STEVEN BOSSONE L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **STEVEN BOSSONE**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**YANG PAN**

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**THOMAS M. BARNES**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**CHRISTOPHER C. FRASER**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the  
person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**NICHOLAS WRIGHTON**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

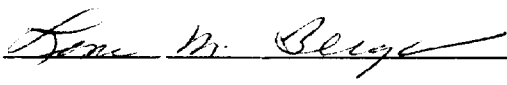
\_\_\_\_\_

Date 10/30/01, 2001  L.S.  
**PAUL S. MYERS**

State of MASS )  
County of Newfolk } SS.:

On Oct 30, 2001, before me, Paul Myers, Notary Public, personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal



Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**GILLIAN KINGSBURY**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ } SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **GILLIAN KINGSBURY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

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ASSIGNMENT

WHEREAS, WE, **Douglas A. Holtzman** (a citizen of the United States, residing at 821 Centre Street, #6, Jamaica Plain, MA 02130); **John D. Sharp** (a citizen of the United States, residing at 245 Park Avenue, Arlington, MA 02476); **Kevin R. Leiby** (a citizen of the United States, residing at 4 Showhegan Way, Natick, MA 01760); **Steven Bossone** (a citizen of the United States, residing at 91 Bacon Street, Winchester, MA 01890); **Yang Pan** (a citizen of the People's Republic of China, residing 5308 135<sup>th</sup> Place SE, Bellevue, WA 98006); **Thomas M. Barnes** (a citizen of Australia, residing at 22 Hanson St. #2, Boston, MA 02118); **Christopher C. Fraser** (a citizen of the United States, residing at 52 Grassland Street, Lexington, MA 02421); **Nicholas Wrighton** (a citizen of the United Kingdom, residing at 18 Lloyd Street, Winchester, MA 01890); **Paul S. Myers** (a citizen of the United States, residing at 171 South Street, Unit 17A, Jamaica Plain, MA 02130); and **Gillian Kingsbury** (a citizen of the United Kingdom, residing at ~~22 Fletcher Street, Roslindale, MA 02131~~), ASSIGNORS, are the inventors of the invention in **NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC, DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES** for which we have executed an application for a Patent of the United States

- ☐ which is executed on ☐ even date herewith or ☐ 2 Vogel St. W. Roxbury MA 02132  
☒ which is identified by Pennie & Edmonds LLP docket no. **7853-226-999**  
☒ which was filed on **March 1, 2001**, Application No. **09/796,858**

*Ch.*  
11/06/01

and WHEREAS, Millennium Pharmaceuticals, Inc., ASSIGNEE is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention 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 and Trademarks of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**DOUGLAS A. HOLTZMAN**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **DOUGLAS A. HOLTZMAN**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Date \_\_\_\_\_, 2001 JOHN D. SHARP L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **JOHN D. SHARP**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 KEVIN R. LEIBY L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **KEVIN R. LEIBY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 STEVEN BOSSONE L.S.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **STEVEN BOSSONE**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**YANG PAN**

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_  
Witnessed by \_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**THOMAS M. BARNES**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **THOMAS M. BARNES**, personally known to me on the basis of satisfactory evidence to be the person  
whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**CHRISTOPHER C. FRASER**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public,  
personally appeared **CHRISTOPHER C. FRASER**, personally known to me on the basis of satisfactory evidence to be the  
person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized  
capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed  
the instrument.

WITNESS my hand and official seal

\_\_\_\_\_



Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**NICHOLAS WRIGHTON**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **NICHOLAS WRIGHTON**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date \_\_\_\_\_, 2001 \_\_\_\_\_ L.S.  
**PAUL S. MYERS**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) SS.:

On \_\_\_\_\_, 2001, before me, \_\_\_\_\_, Notary Public, personally appeared **PAUL S. MYERS**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

\_\_\_\_\_

Date 11/06/01, 2001 *Gill Kingsbury* L.S.  
**GILLIAN KINGSBURY**

State of *Massachusetts*  
County of *Middlesex* SS.:

On *11/6*, 2001, before me, *Linnea Perrean*, Notary Public, personally appeared **GILLIAN KINGSBURY**, personally known to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

*Linnea Perrean*

*My Commission expires 9/1/2006*