01-09-2002

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U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

OVER SHEET ${
m JY}$

Attorney Docket No.: 10147-65US

101937634

To the Assistant Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 2. Name and address of receiving party(ies): 1. Name of conveying party(ies): Millennium Pharmaceuticals, Inc. Christopher C. Fraser Thomas M. Barnes 75 Sidney Street Cambridge, MA 02139 John D. Sharp Susan J. Kirst A Massachusetts Corporation Paul S. Myers Douglas A. Holtzman Sean A. McCarthy Nicholas Wrighton Andrew D.J. Goodearl Mehran Khodadoust -1 2002 3. Nature of conveyance:] Assignment] Security Agreement Merger Change of Name [X] Other: Correct names of conveying parties and correct execution dates. REEL/FRAME: 012133/0976 Execution Dates: 06/12/01 (Fraser/Goodearl) 06/13/01 (Barnes/Holtzman) 06/14/01 (Sharp/Myers) 06/19/01 (Khodadoust) 06/20/01 (Wrighton) 07/02/01 (McCarthy) 07/10/01 (Kirst) 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: B. Patent No.(s): A. Patent Application No.(s): 09/766,511 Additional numbers attached? [] Yes [X] No 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved: [1] document should be mailed: GARY D. COLBY, Ph.D., J.D. AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P. Total fee (37 C.F.R, 3.41) Cal. $\underline{1}$ x \$40.00 = \$40.00 [X] Check # $\underline{\cancel{x}}$ $\underline{\cancel{x}}$ 7 $\underline{\cancel{y}}$ enclosed [] Authorized to be charged to deposit account One Commerce Square - 2005 Market Street - Suite 2200 Philadelphia, PA 19103 Telephone: (215) 965-1200; Direct Dial: (215) 965-1285

1/09/2002 LMUELLER 00000006 09766511

Facsimile: (215) 965-1210; E-Mail: colby@akingump.com

DO NOT USE THIS SPACE

I-FC:581 9. Statement and signature

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

Gary D. Colby, Ph.D., J.D. Name of Person Signing

Reg. #40,961 20 Norant of 2001

Date

8. Deposit account number: 50-1017 (Billing No.: 210147.0065)

Total number of pages including cover sheet, attachments and document: [22]

OMB No. 0651-0011 (exp. 4/94)



U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

> **Attorney Docket** No.: 10147-65US

To the Assistant Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Christopher C. Fraser Thomas M. Barnes John D. Sharp Susan J. Kirst

Paul S. Myers Kevin R. Leiby

Douglas A. Holtzman Sean A. McCarthy

Nicholas Wrighton Charles R. Mackay

Andrew D.J. Goodearl

3. Nature of conveyance:

[X] Assignment Security Agreement Other:

Merger

Change of Name

Execution Date: Christopher C. Fraser, Paul S. Myers -6/18/01; Thomas M. Barnes, Douglas A. Holtzman, Andrew D.J. Goodearl - 6/19/01; John D. Sharp, Kevin R. Leiby, Nicholas Wrighton - 6/20/01; Susan J. Kirst - 7/10/01; Sean A. McCarthy - 7/2/01; Charles R. Mackay - 6/25/01

2. Name and address of receiving party(ies):

Millennium Pharmaceuticals, Inc. 75 Sidney Street Cambridge, MA 02139

A Massachusetts Corporation



4. Application number(s) or patent number(s): 09/766,511

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s):

B. Patent No.(s):

Additional numbers attached? [] Yes [X] No

5. Name and address of party to whom correspondence document should be mailed:

GARY D. COLBY, Ph.D., J.D. AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.

One Commerce Square - 2005 Market Street - Suite 2200

Philadelphia, PA 19103 Telephone: (215) 965-1200 Direct Dial: (215) 965-1285 Facsimile: (215) 965-1210 E-Mail: gcolby@akingump.com 6. Total number of applications and patents involved: [1]

7. Total fee (37 C.F.R. 3.41) Cal. 1 x \$40.00 = \$40.00

[X] Check enclosed

Authorized to be charged to deposit account

8. Deposit account number: 50-1017

(Billing No.: 210147.0065)

DO NOT USE THIS SPACE

/10/2001 LINJELLER 00000060 09766511 FC:581

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

Gary D. Colby, Ph.D., J.D.
Name of Person Signing

Signature

Fig. No. 40 161

Total number of pages including cover sheet, attachments and document: [15]

OMB No. 0651-0011 (exp. 4/94)

: SS.	
. 55.	
COUNTY OF Middlesey:	
	
	,
Before me, a notary public in and for the State	and County aforesaid, on this zathday
of	
being to me personally known, and who having first ex	
presence and have been by me first duly sworn, did ac	<u> </u>
free deed and act, signed, sealed and delivered by him	• •
intending to be legally bound thereby and intending th	
intending to be legally bound thereby and intending the	at said instrument of recording.
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N	otom Dublio
170	otary Public Sinome Collivery Expires: 9/1/2006
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My Commission E	Apriles. 9/1/2006
COM A MODE OF THE	
STATE OF:	
: SS.	
COUNTY OF : ss.	
COUNTY OF : ss.	
COUNTY OF:	
COUNTY OF: Before me, a notary public in and for the State	
COUNTY OF: Before me, a notary public in and for the State	
Before me, a notary public in and for the State of, 2001, personally appeared	d, who
Before me, a notary public in and for the State of, 2001, personally appeared being to me personally known, and who having first expenses.	d, who recuted the foregoing instrument in my
Before me, a notary public in and for the State of, 2001, personally appeared being to me personally known, and who having first expresence and have been by me first duly sworn, did according to the state of, and who having first expresence and have been by me first duly sworn, did according to the state of, and	d, who recuted the foregoing instrument in my knowledge the foregoing instrument as his
Before me, a notary public in and for the State of, 2001, personally appeared being to me personally known, and who having first expresence and have been by me first duly sworn, did actifice deed and act, signed, sealed and delivered by him	d, who recuted the foregoing instrument in my knowledge the foregoing instrument as his for the purpose therein stated and
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Before me, a notary public in and for the State of, 2001, personally appeared being to me personally known, and who having first expresence and have been by me first duly sworn, did acfree deed and act, signed, sealed and delivered by him intending to be legally bound thereby and intending the	d, who secuted the foregoing instrument in my knowledge the foregoing instrument as his for the purpose therein stated and at said instrument be recorded.

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

	Sean A. McCarthy	(SEAL)
	Christopher C. Fraser	(SEAL)
x 6-14-01	John D. Sharp	(SEAL)
	Thomas S. Barnes	(SEAL)
	Susan J. Kirst	(SEAL)
	Paul S. Myers	(SEAL)

STATE OF Massochusett :	
COUNTY OF Middlesey :	SS.
of, 2001, personally appeing to me personally known, and who having presence and have been by me first duly sworn, free deed and act, signed, sealed and delivered by needing to be legally bound thereby and intended	first executed the foregoing instrument in my did acknowledge the foregoing instrument as his y him for the purpose therein stated and
	Notary Public
M.C.	Simonse CORRIVERU
My Commis	sion Expires: 9/1/2006
STATE OF: : :	SS.
COUNTY OF:	
of, 2001, personally appeing to me personally known, and who having	first executed the foregoing instrument in my did acknowledge the foregoing instrument as his y him for the purpose therein stated and
	Notary Public

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	Sean A. McCarthy	(SEAL)
	Christopher C. Fraser	(SEAL)
	John D. Sharp	(SEAL)
x June 13 2001	Thomas S. Barnes M. Tub of the land	(SEAL)
	Susan J. Kirst	(SEAL)
	Paul S. Myers	(SEAL)

JOINT

ASSIGNMENT

WHEREAS, John D. Sharp, Susan J. Kirst, Paul S. Myers, Andrew D.J. Goodearl, Douglas A. Holtzman, and Mehran Khodadoust, all citizens of the United States of America; with respective post office addresses of 245 Park Avenue, Arlington, MA 02476; 12 Dana Street, Brookline, MA 02445; 14 Cornelius Way, Cambridge, MA 02141; 13 Indian Ridge Road, Natick, MA 01760; 821 Centre Street, No. 6, Jamaica Plain, MA 02130; and 106 Sewell Avenue, Apartment 6, Brookline, MA 02445; Sean A. McCarthy, and Nicholas Wrighton, both citizens of the United Kingdom, with respective post office addresses of 3625 Dupont Street, San Diego, CA 92106, and 18 Lloyd Street, Winchester, MA 01890; Christopher C. Fraser, a citizen of Canada, with a post office address of 52 Grassland Street, Lexington, MA 02421, and Thomas S. Barnes, a citizen of Australia, with a post office addresses of 12 Mason Terrace, Brookline, MA 02446, hereinafter generally referred to as "ASSIGNORS," have invented a certain new and useful

Novel Genes Encoding Proteins Having Prognostic, Diagnostic, Preventive, Therapeutic, And Other Uses

for which we have executed a United States patent application, Application No. 09/766,511, filed January 19, 2001, and

ASSIGNORS authorize ASSIGNEE or ASSIGNEE's representative to insert the Application Number and Filing date of this application if they are unknown at the time of execution of this Assignment.

WHEREAS, Millennium Pharmaceuticals, Inc., a Delaware corporation having a place of business at 75 Sidney Street, Cambridge, MA 02139, hereinafter generally referred to as "ASSIGNEE", is desirous of acquiring said invention and said patent application.

NOW, THEREFORE, in consideration of the sum of One Dollar and other good and valuable executed consideration, the full receipt and sufficiency of all of which are hereby acknowledged and intending to be legally bound hereby, we, the undersigned ASSIGNORS, hereby agree to sell, assign, transfer and convey and by these presents do sell, assign, transfer and convey unto the above-named ASSIGNEE, the whole and entire right, title and interest

in and to said invention as described in the above patent application, for the territory of the United States and its possessions and territories and all foreign countries;

104569 v1

PATENT REEL: 012420 FRAME: 0597 .

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

× 7/2/01	Sean A. McCarthy	(SEAL)
	Christopher C. Fraser	(SEAL)
	John D. Sharp	(SEAL)
	Thomas S. Barnes	(SEAL)
The second secon	Susan J. Kirst	(SEAL)
	Paul S. Myers	(SEAL)

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		(SEAL)
	Nicholas Wrighton	· · · · · · · · · · · · · · · · · · ·
		(SEAL)
	Andrew D.J. Goodearl	
		(SEAL)
	Douglas A. Holtzman	
		(SEAL)
\sim	Mehran Khodadoust	
tal Al	405 Campus Avot Address	3 SaiDiego CA
Witness	Address	J 90116
gooon adary	4317 Maryland St	- san Diego, Ca
Witness	Address	92103

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

	Sean A. McCarthy	(SEAL)
Jan 12,200)	Christopher C. Fraser	(SEAL)
	John D. Sharp	(SEAL)
	Thomas S. Barnes	(SEAL)
	Susan J. Kirst	(SEAL)
	Paul S. Myers	(SEAL)

STATE OF Massackusetts	:
COUNTY OF Middlery	: SS.
being to me personally known, and who having presence and have been by me first duly swort free deed and act, signed, sealed and delivered intending to be legally bound thereby and into	· -
STATE OF:	
	ss.
Before me, a notary public in and for to of, 2001, personally being to me personally known, and who having	• •
	Notary Public
My Comn	nission Expires:

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE; for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

	Sean A. McCarthy	(SEAL)
	Christopher C. Fraser	(SEAL)
	John D. Sharp	(SEAL)
	Thomas S. Barnes	(SEAL)
× 10 July 2001	Susan J. Kirst	(SEAL)
	Paul S. Myers	(SEAL)

STATE OF Mass : * COUNTY OF Norfolk : *	
Before me, a notary public in and for the State and County aforesaid, on this logay of, 2001, personally appeared, Likst, who < being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.	
Notary Public	,
My Commission Expires: LORINA G. ALLIN NOTARY PUBLIC NY COMMISSION EXPRES AFRIC 11, 2008 ACCURATE	× ×
STATE OF :	
: ss. : ss. : : : : : : : : : : : : : :	
Before me, a notary public in and for the State and County aforesaid, on thisday of, 2001, personally appeared, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.	

Notary Public

My Commission Expires:

104569 v1

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof:

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

		(SEAL)
	Sean A. McCarthy	
	Christopher C. Fraser	(SEAL)
	John D. Sharp	(SEAL)
	Thomas S. Barnes	(SEAL)
	Susan J. Kirst	(SEAL)
6/14/01	× Paul S. Myers	(SEAL)

STATE OF MASSachuse HS	_: [*]
COUNTY OF Noe folk	: ss. : ×
Before me, a notary public in and for the following serious to me personally known, and who happened and have been by me first duly sw	or the State and County aforesaid, on this 14 day lly appeared Part Myees, who worn, did acknowledge the foregoing instrument in my worn, did acknowledge the foregoing instrument as his ered by him for the purpose therein stated and
	Motary Public Son M. Bugs
My Con	mmission Expires: March 31,3006
STATE OF	: : ss.
COUNTY OF	_:
of, 2001, personal peing to me personally known, and who has presence and have been by me first duly sw	or the State and County aforesaid, on thisday appeared, who wing first executed the foregoing instrument in my worn, did acknowledge the foregoing instrument as his ared by him for the purpose therein stated and intending that said instrument be recorded.
	Notary Public

My Commission Expires:

104569 v1

Witness	Address	
Witness	Address	
	Menran Knodadoust	
	Mehran Khodadoust	(SEAL)
	Douglas A. Holtzman	
		(SEAL)
	Andrew D.J. Goodearl	`
		(SEAL)
	Nicholas Wrighton	
6/20/01	x Nicholas WM	(SEAL)

STATE OF Massachusetts:	
STATE OF Masschusetts: COUNTY OF Nafolk:	
Before me, a notary public in and for the Store of, 2001, personally appearing to me personally known, and who having fir presence and have been by me first duly sworn, die free deed and act, signed, sealed and delivered by intending to be legally bound thereby and intending	eared <u>Neakeles Wingsfor</u> , who st executed the foregoing instrument in my d acknowledge the foregoing instrument as his him for the purpose therein stated and g that said instrument be recorded.
	Notary Public Sen. M. Bay &
My Commission	on Expires: $3/31/06$
STATE OF : ss. COUNTY OF :	
Before me, a notary public in and for the Store, 2001, personally apper being to me personally known, and who having first presence and have been by me first duly sworn, did free deed and act, signed, sealed and delivered by lintending to be legally bound thereby and intending	st executed the foregoing instrument in my dacknowledge the foregoing instrument as his nim for the purpose therein stated and
	Notary Public
My Commission	on Expires:

	Nicholas Wrighton	(SEAL)
X (2 JUNE 2001	Andrew D.J. Goodearl	(SEAL)
	Douglas A. Holtzman	(SEAL)
	Mehran Khodadoust	(SEAL)
Witness	Address	
Witness	Address	

STATE OF Massachusetts: SS. COUNTY OF MARKENY:
: SS.
COUNTY OF Madelessy:
Before me, a notary public in and for the State and County aforesaid, on this 121 day of
STATE OF : ss. COUNTY OF :
Before me, a notary public in and for the State and County aforesaid, on thisday of, 2001, personally appeared, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.
Notary Public
My Commission Expires:

		(SEAL)
	Nicholas Wrighton	
	Andrew D.J. Goodearl	(SEAL)
6/13/01	Douglas A. Holtzman	(SEAL)
	Mehran Khodadoust	(SEAL)
Witness	Address	
Witness	Address	

TATE OF Massachusetts:
COUNTY OF Middlesey :
Before me, a notary public in and for the State and County aforesaid, on this Aday of
STATE OF : ss.
: ss. : :
Before me, a notary public in and for the State and County aforesaid, on thisday of, 2001, personally appeared, who being to me personally known, and who having first executed the foregoing instrument in my

Notary Public

My Commission Expires:

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	(SEAL)	1
	Nicholas Wrighton	
	(SEAL)	
	Andrew D.J. Goodearl	
	(SEAL)	
	Douglas A. Holtzman	
4 Jun, 19, 2001	Mehran Khodadoust (SEAL)	
Witness	Address	
Witness	Address	

STATE OF Morsachusitts:
COUNTY OF Middlesey:
Before me, a notary public in and for the State and County aforesaid, on this 19 Per day of
Notary Public My Commission Expires: 9/1/2006
My Commission Expires: 9/1/2006
STATE OF: : ss. COUNTY OF:
Before me, a notary public in and for the State and County aforesaid, on thisday of, 2001, personally appeared, who being to me personally known, and who having first executed the foregoing instrument in my bresence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.
Notary Public
My Commission Expires:

RECORDED: 01/07/2002