

Form PTO-1595 (Rev. 01-09)  
OMB No. 0651-0027 (exp. 02/28/2009)

U.S. DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

## RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

### 1. Name of conveying party(ies)

(1) Indu T. Bharathan-Executed March 9, 2010  
(2) Matthew Duffey-Executed March 12, 2010  
(3) Amy Elder- Executed March 3, 2010  
(4) Jianping Guo - Executed March 9, 2010

Additional name(s) of conveying party(ies) attached? ☒ Yes ☐ No

### 3. Nature of conveyance/Execution Date(s):

Execution Date(s) See dates listed above.

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Joint Research Agreement  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other \_\_\_\_\_

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

Name: Millennium Pharmaceuticals, Inc.

Internal Address: \_\_\_\_\_

Street Address: 40 Landsdowne Street

City: Cambridge

State: MA

Country: United States Zip: 02139

Additional name(s) & address(es) attached? ☐ Yes ☒ No

### 4. Application or patent number(s):

☐ This document is being filed together with a new application.

A. Patent Application No.(s)

12/631,144

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

### 5. Name and address to whom correspondence concerning document should be mailed:

Name: Eileen J. Ennis

Internal Address: Millennium Pharmaceuticals, Inc.

Street Address: 40 Landsdowne Street

City: Cambridge

State: MA Zip: 02139

Phone Number: 617-551-3751

Fax Number: 617-551-8820

Email Address: Eileen.Ennis@mpi.com

### 6. Total number of applications and patents involved: \_\_\_\_\_

### 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00

- ☒ Authorized to be charged to deposit account  
☐ Enclosed  
☐ None required (government interest not affecting title)

### 8. Payment Information

Deposit Account Number 501668

Authorized User Name Eileen J. Ennis

### 9. Signature:

Eileen J. Ennis

Signature

March 30, 2010

Date

Eileen J. Ennis

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

25

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450

CH \$40.00 501668 12631144

Patent Application No. 12/631,144

Gang Li	Execution Date: March 9, 2010
Dominic Reynolds	Execution Date: March 4, 2010
Francois Soucy	Execution Date: March 11, 2010
Tricia J. Vos	Execution Date: March 10, 2010

Practitioner's Docket No. MPI08-018P1RNM

**PATENT**

For: U.S. and Foreign Rights

For: U.S. Application

By: Inventors

**ASSIGNMENT OF INVENTION**

**WHEREAS,**

**ASSIGNORS:**

Indu T. Bharathan

101 Western Avenue, Apt. #45, Cambridge, Massachusetts 02139

Nationality: India

Matthew Duffey

1 Emerson Place, Apt. 8E, Boston, Massachusetts 02114

Nationality: United States

Amy Elder

15 Westminster Avenue, Arlington, Massachusetts 02474

Nationality: United States

Jianping Guo

29 Vine Street, Unit 5, Winchester, Massachusetts 01890

Nationality: United States

Gang Li

3 Hundreds Road, Westborough, Massachusetts 01581

Nationality: China

Dominic Reynolds

29 Bonad Road, Stoneham, Massachusetts 02180

Nationality: United Kingdom

Francois Soucy

39 Ellen Road, Stoneham, Massachusetts 02180

Nationality: Canada

Tricia J. Vos

203 Woburn Street, Medford, Massachusetts 02155

Nationality: United States

**PATENT**

**REEL: 024158 FRAME: 0788**

Practitioner's Docket No. MPI08-018P1RNM

have co-invented a certain invention entitled:

**THIOLACTAMS AND USES THEREOF**

for which they have executed an application for a United States patent, which was filed on December 4, 2009, under U.S. Application No. 12/631,144; and

**WHEREAS,**

**ASSIGNEE:**

MILLENNIUM PHARMACEUTICALS, INC.

40 Landsdowne Street

Cambridge, Massachusetts 02139

State of Incorporation: Delaware

is desirous of acquiring ASSIGNORS' entire domestic and foreign right, title, and interest in and under the invention described in the patent application;

**NOW, THEREFORE,** for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNORS hereby, without reservations, sell, assign and transfer to ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and to the invention in the United States and in every foreign country, and our entire right, title, and interest in and to the patent application and such other applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, National phase applications, including petty patent applications and utility model applications) as may be filed on the invention in the United States or in any foreign country, and the patents, extensions, or derivations thereof, both foreign and domestic, that may issue thereon; said invention, applications, and patents to be held and enjoyed by ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said patents may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made.

ASSIGNORS hereby authorize the ASSIGNEE to insert in this assignment document the filing date and application number of the application if the date and number are unavailable at the time this document is executed.

ASSIGNORS hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein. ASSIGNORS further acknowledge that this assignment carries with it the right in ASSIGNEE to claim under the Patent Cooperation Treaty, the International Convention and/or other international arrangement for any such application the date of the United States application (or

**Practitioner's Docket No. MPI08-018P1RNM**

any other application on the invention) to gain priority with respect to other applications.

ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

ASSIGNORS further covenant that we will at any time upon request, without further or additional consideration, but at the expense of the ASSIGNEE, execute and deliver such additional assignments and other writings and do such additional acts as the ASSIGNEE may deem necessary or desirable to perfect the ASSIGNEE's enjoyment of this assignment, and render all necessary assistance in making application for and obtaining original, continuation, continuation-in-part, divisional, reissued, reexamined, and National phase patents of the United States or of any and all foreign countries on the invention, and in enforcing any rights or choses in action accruing as a result of such applications or patents, and by executing statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representative of all parties hereto.

Practitioner's Docket No. MPI08-018P1RNM

AND, ASSIGNORS do hereby authorize and request the Commissioner of Patents of the United States to issues such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Signature of Inventor Indu T. Bharathan

\_\_\_\_\_  
Witness 1 Signature

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 1 Address

\_\_\_\_\_  
Witness 2 Signature

\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Signature of Inventor Matthew Duffey

\_\_\_\_\_  
Witness 1 Signature

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 1 Address

\_\_\_\_\_  
Witness 2 Signature

\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Signature of Inventor Amy Elder

\_\_\_\_\_  
Witness 1 Signature

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 1 Address

\_\_\_\_\_  
Witness 2 Signature

\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 2 Address



Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Signature of Inventor Jianping Guo

\_\_\_\_\_  
Witness 1 Signature

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 1 Address

\_\_\_\_\_  
Witness 2 Signature

\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Signature of Inventor Gang Li

\_\_\_\_\_  
Witness 1 Signature

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 1 Address


\_\_\_\_\_  
Witness 2 Signature

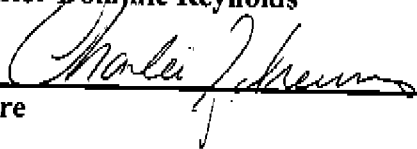
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Witness 2 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM


IN WITNESS WHEREOF, I have hereunto set my hand and seal this 4<sup>th</sup> day of  
MARCH, 2010.

  
\_\_\_\_\_  
Signature of Inventor **Dominic Reynolds**

  
\_\_\_\_\_  
Witness 1 Signature

Charlie Johannes  
\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

5 Graham ave, Newbury MA 01951  
\_\_\_\_\_  
Witness 1 Address

  
\_\_\_\_\_  
Witness 2 Signature

Cher Kian, SEE  
\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

Block 204B Punggol Field #10-302 Singapore 822204  
\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Signature of Inventor Francois Soucy

\_\_\_\_\_  
Witness 1 Signature

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 1 Address

\_\_\_\_\_  
Witness 2 Signature

\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Signature of Inventor Tricia J. Vos

\_\_\_\_\_  
Witness 1 Signature

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 1 Address

\_\_\_\_\_  
Witness 2 Signature

\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

**PATENT**

For: U.S. and Foreign Rights  
For: U.S. Application  
By: Inventors

**ASSIGNMENT OF INVENTION**

**WHEREAS,**

**ASSIGNORS:**

Indu T. Bharathan  
101 Western Avenue, Apt. #45, Cambridge, Massachusetts 02139  
Nationality: India

Matthew Duffey  
1 Emerson Place, Apt. 8E, Boston, Massachusetts 02114  
Nationality: United States

Amy Elder  
15 Westminster Avenue, Arlington, Massachusetts 02474  
Nationality: United States

Jianping Guo  
29 Vine Street, Unit 5, Winchester, Massachusetts 01890  
Nationality: United States

Gang Li  
3 Hundreds Road, Westborough, Massachusetts 01581  
Nationality: China

Dominic Reynolds  
29 Bonad Road, Stoneham, Massachusetts 02180  
Nationality: United Kingdom

Francois Soucy  
39 Ellen Road, Stoneham, Massachusetts 02180  
Nationality: Canada

Tricia J. Vos  
203 Woburn Street, Medford, Massachusetts 02155  
Nationality: United States

**Practitioner's Docket No. MPI08-018P1RNM**

have co-invented a certain invention entitled:

**THIOLACTAMS AND USES THEREOF**

for which they have executed an application for a United States patent, which was filed on December 4, 2009, under U.S. Application No. 12/631,144; and

**WHEREAS,**

**ASSIGNEE:**

**MILLENNTUM PHARMACEUTICALS, INC.**

40 Landsdowne Street

Cambridge, Massachusetts 02139

State of Incorporation: Delaware

is desirous of acquiring ASSIGNORS' entire domestic and foreign right, title, and interest in and under the invention described in the patent application;

**NOW, THEREFORE,** for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNORS hereby, without reservations, sell, assign and transfer to ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and to the invention in the United States and in every foreign country, and our entire right, title, and interest in and to the patent application and such other applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, National phase applications, including petty patent applications and utility model applications) as may be filed on the invention in the United States or in any foreign country, and the patents, extensions, or derivations thereof, both foreign and domestic, that may issue thereon; said invention, applications, and patents to be held and enjoyed by ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said patents may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made.

ASSIGNORS hereby authorize the ASSIGNEE to insert in this assignment document the filing date and application number of the application if the date and number are unavailable at the time this document is executed.

ASSIGNORS hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein. ASSIGNORS further acknowledge that this assignment carries with it the right in ASSIGNEE to claim under the Patent Cooperation Treaty, the International Convention and/or other international arrangement for any such application the date of the United States application (or

**Practitioner's Docket No. MPI08-018P1RNM**

any other application on the invention) to gain priority with respect to other applications.

ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

ASSIGNORS further covenant that we will at any time upon request, without further or additional consideration, but at the expense of the ASSIGNEE, execute and deliver such additional assignments and other writings and do such additional acts as the ASSIGNEE may deem necessary or desirable to perfect the ASSIGNEE's enjoyment of this assignment, and render all necessary assistance in making application for and obtaining original, continuation, continuation-in-part, divisional, reissued, reexamined, and National phase patents of the United States or of any and all foreign countries on the invention, and in enforcing any rights or choses in action accruing as a result of such applications or patents, and by executing statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representative of all parties hereto.



Practitioner's Docket No. MPI08-018P1RNM

AND, ASSIGNORS do hereby authorize and request the Commissioner of Patents of the United States to issues such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 9<sup>th</sup> day of March, 2010.

*Indu T. Bharathan*

Signature of Inventor Indu T. Bharathan

*Dylan England*

Witness 1 Signature

Dylan England

Witness 1 (Typed or Handwritten) Name

33 Dickens Way 73H Marlborough MA 01752

Witness 1 Address

*Brian Scott Freeze*

Witness 2 Signature

Brian Scott Freeze

Witness 2 (Typed or Handwritten) Name

67 Gates St Unit 1, Boston, MA 02127

Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 12<sup>th</sup> day of March, 2010.

Matthew Duffey  
Signature of Inventor Matthew Duffey

Brian Scott Freeze  
Witness 1 Signature

Brian Scott Freeze  
Witness 1 (Typed or Handwritten) Name

67 Gates St unit 1 Boston, MA 02127  
Witness 1 Address


Ryan Chan  
Witness 2 Signature

Ryan Chan  
Witness 2 (Typed or Handwritten) Name

139A Japans St. Somerville, MA 02145  
Witness 2 Address

Practitioner's Docket No. MP108-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 3 day of March, 2010.

  
\_\_\_\_\_  
Signature of Inventor Amy Elder

  
\_\_\_\_\_  
Witness 1 Signature

ABHISHEK DOGRA  
\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

159 Highland Ave. Apt 3. Somerville, MA 02143  
\_\_\_\_\_  
Witness 1 Address

  
\_\_\_\_\_  
Witness 2 Signature

INDRANATH GHOSH  
\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

7 GRANT AVENUE, BELMONT, MA 02478  
\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 9<sup>th</sup> day of March, 2010.

Jianping Guo

Signature of Inventor Jianping Guo

TIANLIN XU

Witness 1 Signature

TIANLIN XU

Witness 1 (Typed or Handwritten) Name

2 ARROWWOOD DR, SHREWSBURY, MA 01545

Witness 1 Address

Liting Ma

Witness 2 Signature

Liting Ma


Witness 2 (Typed or Handwritten) Name

41 Oak St, Needham MA 02462

Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 9<sup>th</sup> day of March, 2010.

  
\_\_\_\_\_  
Signature of Inventor Gang Li

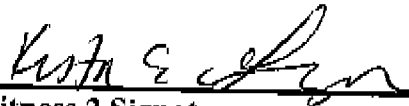
\_\_\_\_\_  
Witness 1 Signature

TIANLIN XU

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

2 ARROWWOOD DR, SHREWSBURY, MA 01545

\_\_\_\_\_  
Witness 1 Address

  
\_\_\_\_\_  
Witness 2 Signature

Krista E Granger  
\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

42 Marion St. Medford MA 02155  
\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Signature of Inventor Dominic Reynolds

\_\_\_\_\_  
Witness 1 Signature

\_\_\_\_\_  
Witness 1 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 1 Address

\_\_\_\_\_  
Witness 2 Signature

\_\_\_\_\_  
Witness 2 (Typed or Handwritten) Name

\_\_\_\_\_  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 11 day of March, 2010.

Francois Soucy

Signature of Inventor Francois Soucy

J. J. Ciavarella

Witness 1 Signature

Jessie Ciavarella  
Witness 1 (Typed or Handwritten) Name

30 Winthrop Ave, Reading MA 01867  
Witness 1 Address

Brian Scott Frazier

Witness 2 Signature

Brian Scott Frazier  
Witness 2 (Typed or Handwritten) Name

67 Gates St Unit 1, Boston MA 02127  
Witness 2 Address

Practitioner's Docket No. MPI08-018P1RNM

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 10<sup>th</sup> day of March, 2010.

Tricia J. Vos  
Signature of Inventor Tricia J. Vos

Alexandra E. Gould  
Witness 1 Signature

Alexandra E. Gould  
Witness 1 (Typed or Handwritten) Name

23R FAIRMONT ST. CAMBRIDGE, MA 02139.  
Witness 1 Address

David P. Cardin  
Witness 2 Signature

David P. Cardin  
Witness 2 (Typed or Handwritten) Name

26 Fairview Ave Wilmington, MA 01887  
Witness 2 Address

(Page 11 of 11)  
PATENT