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Conveying Party(ies)

☐ Mark if additional names of conveying parties attached

Name	Execution Date		
	Month	Day	Year
Hidde L. Ploegh	10	8	98
Paula R. Bryant (f/k/a Paula R. Wolf)	10	8	98
Matthew S. Bogyo	10	8	98
	/	/	

Receiving Party

☒ Mark if additional names of receiving parties attached

Name (line 1)  Massachusetts Institute of Technology

Name (line 2)  77 Massachusetts Avenue

Address (line 1)

Address (line 2)

Address (line 3)  Cambridge  MA  02139

City State/Country Zip Code

☐ If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment)

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05/26/1999 DNGUYEN 00000071 09155956

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

PATENT  
REEL: 009965 FRAME: 0255

## Correspondent Name and Address

Area Code and Telephone Number (617) 248-7000

Name Patent Administrator

Address (line 1) Testa, Hurwitz &amp; Thibault, LLP

Address (line 2) High Street Tower

Address (line 3) 125 High Street

Address (line 4) Boston, MA 02110

Pages Enter the total number of pages of the attached conveyance document including any attachments.

6

## Application Number(s) or Patent Number(s)

☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

## Patent Application Number(s)

09/155,956

## Patent Number(s)

## Patent Cooperation Treaty (PCT)

Enter PCT application number  
only if a U.S. Application Number  
has not been assigned.

PCT

PCT

PCT

PCT

PCT

PCT

## Number of Properties

Enter the total number of properties involved.

# 1

## Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41):

\$ 40.00

Method of Payment:

Enclosed ☒Deposit Account ☐

Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the account)

Deposit Account Number

# 20-0531

Authorization to charge additional fees:

Yes ☒ No ☐

## 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. Charges to deposit account are authorized, as indicated herein.*

Michael J. Twomey

Name of Person Signing

Signature

Date

395MJT4191/3.781234\_1

**ASSIGNMENT**

WHEREAS, We, Hidde L. Ploegh, Paula R. Wolf, and Matthew S. Bogyo have co-invented, along with Harold A. Chapman and Richard J. Riese, one or more inventions in:

**SUPPRESSION OF IMMUNE RESPONSE VIA INHIBITION OF CATHEPSIN S**

described in an application (or provisional application) for Letters Patent of the United States:

☐ identified by Attorney Docket No. \_\_\_\_\_, and/or executed by us of even date herewith and about to be filed in the United States Patent Office;

☒ Serial No. 09/155,956 filed in the United States Patent Office on October 8, 1998; and

WHEREAS, the Massachusetts Institute of Technology (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts 02139 desires to acquire an interest therein, in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern, be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the inventions described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under international convention, including but not limited to continuations, divisionals, reissues, and reexaminations of said application or such Letters Patent; said inventions, applications and Letters Patent to be held and enjoyed by said 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 Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all of our rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said inventions, 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 Letters Patent to ASSIGNEE in its own name as assignee of our entire right, title and interest therein.

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including: substitution, reissue, divisional, continuation or corresponding foreign or international patent applications; and to make or provide statements or the giving of testimony in any interference or other proceeding in which said inventions or any application or patent directed thereto may be involved; and we further hereby authorize ASSIGNEE

**Joint Assignment**

**Page 2**

or its attorneys or agents to insert the correct serial number and filing date into this assignment, if none is indicated on that date of our execution of this assignment;

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

*IN TESTIMONY WHEREOF*, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor:

\_\_\_\_\_  
Hidde L. Ploegh

Commonwealth of Massachusetts     )  
County of                                 ) ss

Subscribed and sworn to before me, by the above-named         this \_\_\_\_\_ day of  
\_\_\_\_\_, 19         .

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

Inventor:

\_\_\_\_\_  
Paula R. Wolf

Commonwealth of Massachusetts     )  
County of                                 ) ss

Subscribed and sworn to before me, by the above-named         this \_\_\_\_\_ day of  
\_\_\_\_\_, 19         .

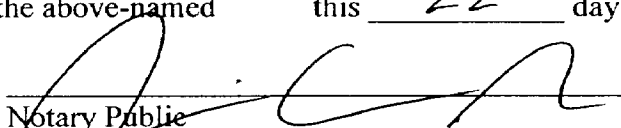
\_\_\_\_\_  
Notary Public

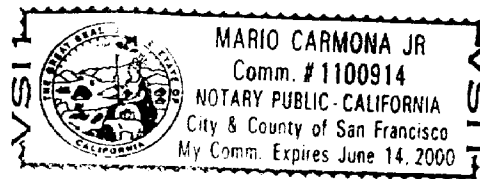
My Commission Expires: \_\_\_\_\_

Inventor:   
Matthew S. Bogyo

State of CALIFORNIA )  
County of SAN FRANCISCO ) ss

Subscribed and sworn to before me, by the above-named this 22 day of  
FEBRUARY, 1999.

  
Notary Public  
My Commission Expires: 06.14.00



506MAB5473/85.709881-1

**ASSIGNMENT**

WHEREAS, We, Hidde L. Ploegh, Paula R. <sup>Bryant</sup> ~~Woff~~ <sup>PRB</sup>, and Matthew S. Bogyo have co-invented, along with Harold A. Chapman and Richard J. Riese, one or more inventions in:

**SUPPRESSION OF IMMUNE RESPONSE VIA INHIBITION OF CATHEPSIN S**

described in an application (or provisional application) for Letters Patent of the United States:

☐ identified by Attorney Docket No. , and/or executed by us of even date herewith and about to be filed in the United States Patent Office;

☒ Serial No. 09/155,956 filed in the United States Patent Office on October 8, 1998; and

WHEREAS, the Massachusetts Institute of Technology (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts , and having a usual place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts 02139 desires to acquire an interest therein, in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern, be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the inventions described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under international convention, including but not limited to continuations, divisionals, reissues, and reexaminations of said application or such Letters Patent; said inventions, applications and Letters Patent to be held and enjoyed by said 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 Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all of our rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said inventions, 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 Letters Patent to ASSIGNEE in its own name as assignee of our entire right, title and interest therein.

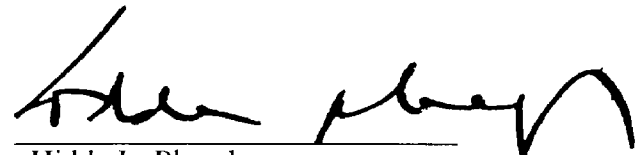
AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including: substitution, reissue, divisional, continuation or corresponding foreign or international patent applications; and to make or provide statements or the giving of testimony in any interference or other proceeding in which said inventions or any application or patent directed thereto may be involved; and we further hereby authorize ASSIGNEE

or its attorneys or agents to insert the correct serial number and filing date into this assignment, if none is indicated on that date of our execution of this assignment;

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

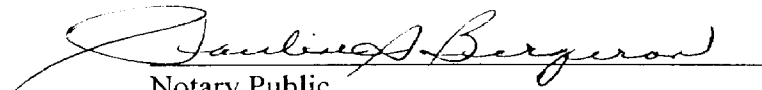
**IN TESTIMONY WHEREOF**, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor:

  
Hidde L. Ploegh

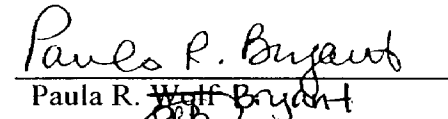
Commonwealth of Massachusetts )  
County of Suffolk ) ss

Subscribed and sworn to before me, by the above-named this 12<sup>th</sup> day of  
March, 1999 .

  
Notary Public

My Commission Expires: **PAULINE A. BERGERON**  
**NOTARY PUBLIC**  
My commission exp. Sept. 29, 2000

Inventor:

  
Paula R. Wolf Bryant

Commonwealth of Massachusetts )  
County of Suffolk ) ss

Subscribed and sworn to before me, by the above-named this 16<sup>th</sup> day of  
March, 1999 .

  
Notary Public

My Commission Expires: **PAULINE A. BERGERON**  
**NOTARY PUBLIC**  
My commission exp. Sept. 29, 2000

Inventor: \_\_\_\_\_  
Matthew S. Bogyo

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss

Subscribed and sworn to before me, by the above-named \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

\_\_\_\_\_  
Notary Public  
My Commission Expires: \_\_\_\_\_

506MAB5473/85.709881-1