

# PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT										
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT										
<b>CONVEYING PARTY DATA</b>											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th style="width: 30%;">Execution Date</th> </tr> </thead> <tbody> <tr> <td>Hidde L. Ploegh</td> <td>08/26/2011</td> </tr> <tr> <td>John M. Antos</td> <td>08/26/2011</td> </tr> <tr> <td>Maximilian Wei-Lin Popp</td> <td>08/25/2011</td> </tr> <tr> <td>Carla Guimaraes</td> <td>08/26/2011</td> </tr> </tbody> </table>		Name	Execution Date	Hidde L. Ploegh	08/26/2011	John M. Antos	08/26/2011	Maximilian Wei-Lin Popp	08/25/2011	Carla Guimaraes	08/26/2011
Name	Execution Date										
Hidde L. Ploegh	08/26/2011										
John M. Antos	08/26/2011										
Maximilian Wei-Lin Popp	08/25/2011										
Carla Guimaraes	08/26/2011										
<b>RECEIVING PARTY DATA</b>											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>Name:</b></td> <td>Whitehead Institute for Biomedical Research</td> </tr> <tr> <td><b>Street Address:</b></td> <td>Nine Cambridge Center</td> </tr> <tr> <td><b>City:</b></td> <td>Cambridge</td> </tr> <tr> <td><b>State/Country:</b></td> <td>MASSACHUSETTS</td> </tr> <tr> <td><b>Postal Code:</b></td> <td>02142</td> </tr> </table>		<b>Name:</b>	Whitehead Institute for Biomedical Research	<b>Street Address:</b>	Nine Cambridge Center	<b>City:</b>	Cambridge	<b>State/Country:</b>	MASSACHUSETTS	<b>Postal Code:</b>	02142
<b>Name:</b>	Whitehead Institute for Biomedical Research										
<b>Street Address:</b>	Nine Cambridge Center										
<b>City:</b>	Cambridge										
<b>State/Country:</b>	MASSACHUSETTS										
<b>Postal Code:</b>	02142										
<b>PROPERTY NUMBERS Total: 1</b>											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13145644</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13145644						
Property Type	Number										
Application Number:	13145644										
<b>CORRESPONDENCE DATA</b>											
<p>Fax Number: (617)646-8646</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 617-646-8000</p> <p>Email: patents_HunterB@wolfgreenfield.com</p> <p>Correspondent Name: Wolf, Greenfield &amp; Sacks, P.C.</p> <p>Address Line 1: 600 Atlantic Avenue</p> <p>Address Line 4: Boston, MASSACHUSETTS 02210</p>											
<b>ATTORNEY DOCKET NUMBER:</b>	W0571.70021US02										
<b>NAME OF SUBMITTER:</b>	C. Hunter Baker, M.D., Ph.D.										
<p>Total Attachments: 20</p> <p>source=W0571.70021US02 - Executed Assignment#page 1.tif</p>											

OP \$40.00 13145644

**501651439**

**PATENT**  
**REEL: 026872 FRAME: 0528**

source=W0571.70021US02 - Executed Assignment#page2.tif  
source=W0571.70021US02 - Executed Assignment#page3.tif  
source=W0571.70021US02 - Executed Assignment#page4.tif  
source=W0571.70021US02 - Executed Assignment#page5.tif  
source=W0571.70021US02 - Executed Assignment#page6.tif  
source=W0571.70021US02 - Executed Assignment#page7.tif  
source=W0571.70021US02 - Executed Assignment#page8.tif  
source=W0571.70021US02 - Executed Assignment#page9.tif  
source=W0571.70021US02 - Executed Assignment#page10.tif  
source=W0571.70021US02 - Executed Assignment#page11.tif  
source=W0571.70021US02 - Executed Assignment#page12.tif  
source=W0571.70021US02 - Executed Assignment#page13.tif  
source=W0571.70021US02 - Executed Assignment#page14.tif  
source=W0571.70021US02 - Executed Assignment#page15.tif  
source=W0571.70021US02 - Executed Assignment#page16.tif  
source=W0571.70021US02 - Executed Assignment#page17.tif  
source=W0571.70021US02 - Executed Assignment#page18.tif  
source=W0571.70021US02 - Executed Assignment#page19.tif  
source=W0571.70021US02 - Executed Assignment#page20.tif

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation, having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the application for United States Letters Patent filed with the United States Patent and Trademark Office on July 21, 2011, under U.S. Serial No. 13/145,644, bearing Attorney Docket No. W0571.70021US02, and entitled METHODS FOR LIGATION AND USES THEREOF, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, I agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the Letters Patent to the Assignee;
4. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

AUG 26, 2011  
Date

[Signature]  
Inventor: Hidde L. Ploegh

Address: 1 Toxteth Street

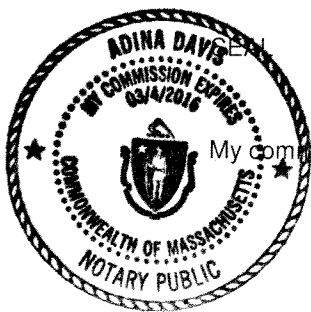
Brookline, MA 02445

Citizenship: Netherlands

1 US 6 8/26/11

STATE/Commonwealth of Massachusetts  
COUNTY OF Middlesex:

On this 26<sup>th</sup> day of August, 2011, before me, the undersigned notary public,  
personally appeared Hidde L. Ploegh, proved to me through satisfactory evidence of  
identification, which were personal knowledge,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.



Adina Davis  
Notary Public

My commission expires: 3-4-16

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: John M. Antos

Address: 1904 Mill Avenue  
Bellingham, WA 98225

Citizenship: US

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared \_\_\_\_\_ John M. Antos \_\_\_\_\_, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Maximilian Wei-Lin Popp

Address: 12332 Main Campus Drive  
Lexington, MA 02421

Citizenship: US

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared \_\_\_\_\_ Maximilian Wei-Lin Popp \_\_\_\_\_, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Carla Guimaraes

Address: 1 Devonshire Place, Apt. 3101  
Boston, MA 02109

Citizenship: Portugal

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared \_\_\_\_\_ Carla Guimaraes \_\_\_\_\_, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation, having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the application for United States Letters Patent filed with the United States Patent and Trademark Office on July 21, 2011, under U.S. Serial No. 13/145,644, bearing Attorney Docket No. W0571.70021US02, and entitled METHODS FOR LIGATION AND USES THEREOF, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, I agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the Letters Patent to the Assignee;
4. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.



\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Hidde L. Ploegh

Address: 1 Toxteth Street

Brookline, MA 02445

Citizenship: Netherlands

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared \_\_\_\_\_ Hidde L. Ploegh \_\_\_\_\_, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

8-26-11  
Date

Inventor: John M. Antos  
Address: ~~1004 Mill Avenue~~ 606 Laurel Drive  
~~Bellingham, WA 98225~~ Everett, WA 98201  
Citizenship: US

JMA

STATE/Commonwealth of WA  
COUNTY OF KING:

On this 26 day of August, 2011, before me, the undersigned notary public, personally appeared John M. Antos, proved to me through satisfactory evidence of identification, which were WADL ANTOSM212NW, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.



Mark E. Olson  
Notary Public

My commission expires: 9/15/2014

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Maximilian Wei-Lin Popp

Address: 12332 Main Campus Drive

Lexington, MA 02421

Citizenship: US

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared Maximilian Wei-Lin Popp, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Carla Guimaraes

Address: 1 Devonshire Place, Apt. 3101  
Boston, MA 02109

Citizenship: Portugal

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared Carla Guimaraes, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation, having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the application for United States Letters Patent filed with the United States Patent and Trademark Office on July 21, 2011, under U.S. Serial No. 13/145,644, bearing Attorney Docket No. W0571.70021US02, and entitled METHODS FOR LIGATION AND USES THEREOF, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;

2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, I agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;

3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the Letters Patent to the Assignee;

4. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and

5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Hidde L. Ploegh

Address: 1 Toxteth Street

Brookline, MA 02445

Citizenship: Netherlands

STATE/Commonwealth of \_\_\_\_\_  
COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared \_\_\_\_\_ Hidde L. Ploegh \_\_\_\_\_, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: John M. Antos

Address: 1904 Mill Avenue

Bellingham, WA 98225

Citizenship: US

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared \_\_\_\_\_ John M. Antos \_\_\_\_\_, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

8/25/2011

Date

Inventor: Maximilian Wei-Lin Popp

Address: 12332 Main Campus Drive 392 French Rd. <sup>M.P. 8/25/11</sup>  
Lexington, MA 02421 Pittsford, NY 14618

Citizenship: US

STATE/Commonwealth of Massachusetts  
COUNTY OF Middlesex:

On this 25<sup>th</sup> day of August, 2011, before me, the undersigned notary public, personally appeared Maximilian Wei-Lin Popp, proved to me through satisfactory evidence of identification, which were personal knowledge, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.



Adina Davis  
Notary Public

My commission expires:

3.4.16



\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Carla Guimaraes

\_\_\_\_\_  
Address: 1 Devonshire Place, Apt. 3101  
Boston, MA 02109

\_\_\_\_\_  
Citizenship: Portugal

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared \_\_\_\_\_ Carla Guimaraes \_\_\_\_\_, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation, having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the application for United States Letters Patent filed with the United States Patent and Trademark Office on July 21, 2011, under U.S. Serial No. 13/145,644, bearing Attorney Docket No. W0571.70021US02, and entitled METHODS FOR LIGATION AND USES THEREOF, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, I agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the Letters Patent to the Assignee;
4. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Hidde L. Ploegh

Address: 1 Toxteth Street

Brookline, MA 02445

Citizenship: Netherlands

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared \_\_\_\_\_ Hidde L. Ploegh \_\_\_\_\_, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: John M. Antos

Address: 1904 Mill Avenue

Bellingham, WA 98225

Citizenship: US

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared \_\_\_\_\_ John M. Antos \_\_\_\_\_, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Maximilian Wei-Lin Popp

Address: 12332 Main Campus Drive

Lexington, MA 02421

Citizenship: US

STATE/Commonwealth of \_\_\_\_\_  
County of \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
personally appeared Maximilian Wei-Lin Popp, proved to me through satisfactory evidence of  
identification, which were \_\_\_\_\_,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

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

My commission expires: \_\_\_\_\_

08/26/11  
Date

Carla Guimaraes  
Inventor: Carla Guimaraes  
Address: 1 Devonshire Place, Apt. 3101 3611  
Boston, MA 02109  
Citizenship: Portugal

CG  
08/26/11

STATE/Commonwealth of Massachusetts  
COUNTY OF Middlesex:

On this 26<sup>th</sup> day of August, 2011, before me, the undersigned notary public,  
personally appeared Carla Guimaraes, proved to me through satisfactory evidence of  
identification, which were personal knowledge,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.



Adina Davis  
Notary Public

commission expires: 3-4-16