PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

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

RECEIVING PARTY DATA

Name:	Whitehead Institute for Biomedical Research	
Street Address:	Nine Cambridge Center	
City:	Cambridge	
State/Country:	MASSACHUSETTS	
Postal Code:	02142	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13145644

CORRESPONDENCE DATA

Fax Number: (617)646-8646

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 617-646-8000

Email: patents_HunterB@wolfgreenfield.com

Correspondent Name: Wolf, Greenfield & Sacks, P.C.

Address Line 1: 600 Atlantic Avenue

Address Line 4: Boston, MASSACHUSETTS 02210

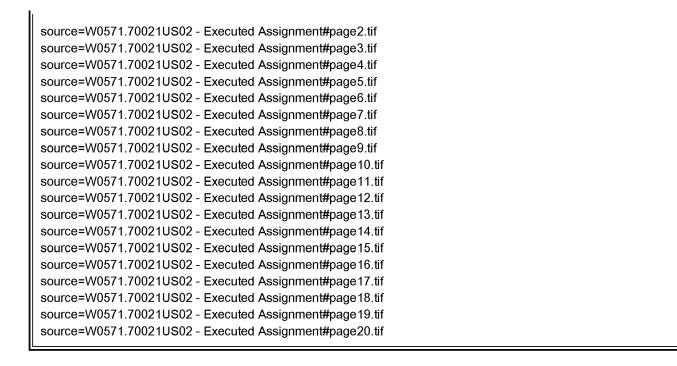
ATTORNEY DOCKET NUMBER:	W0571.70021US02
NAME OF SUBMITTER:	C. Hunter Baker, M.D., Ph.D.

Total Attachments: 20

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PATENT REEL: 026872 FRAME: 0528 OF \$40.00 13145644

501651439



PATENT REEL: 026872 FRAME: 0529

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

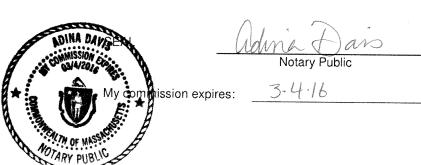
- Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation, having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, 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.

Attorney Docket No. W0571.70021US02 2404972.1

<u>AUG- 76, 2011</u> Date Inventor:	Hidde L. Ploegh
Address:	1 Toxteth Street
	Brookline, MA 02445
Citizenship:	Brookline, MA 02445 Netherlands / 45/4 8/26/11

STATE/COMMONWEALTH OF Massachusetts COUNTY OF Middlesex:	
On this 26th 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.	



Date		Inventor:	John M. Antos
		Address:	1904 Mill Avenue
			Bellingham, WA 98225
		Citizenship:	US
STATE/COMMONWEA	LTH 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 we			
			document in my presence and swore or affirmed
			accurate to the best of (his) (her) knowledge
and belief and acknowl	edged to	me that (he) (she) signe	ed it voluntarily for its stated purpose.
SEAL			
		Notary Public	
My commission exp	oires:		

Page 3 of 5

Date	Inventor:	Maximilian Wei-Lin Popp
	Address:	12332 Main Campus Drive
		Lexington, MA 02421
	Citizenship:	US
STATE/COMMONWEALTH O	F	
COUNTY OF		
On this day of		hafara ma tha undarainned natary nublic
<i>-</i>	•	, before me, the undersigned notary public, , proved to me through satisfactory evidence of
identification, which were	The state of the s	_, provou to me unough satisfactory evidence of
***************************************	e preceding or attached of	document in my presence and swore or affirmed
to me that the contents of the c	document are truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowledged t	o me that (he) (she) signe	ed it voluntarily for its stated purpose.
SEAL		
SEAL	Notary Public	-
	Notary Fublic	
My commission expires:		

Page 4 of 5

Date		Inventor:	Carla Guimaraes
		Address:	1 Devonshire Place, Apt. 3101
			Boston, MA 02109
		Citizenship:	Portugal
STATE/COMMANDAUM			
STATE/COMMONWI	EALTH OF _		
COUNTY OF		***************************************	
On this	day of		, before me, the undersigned notary public,
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Page 5 of 5

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

- Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware 1. 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
OTATE/0014140184		
STATE/COMMONWEA	LIH OF	
COUNTY OF	:	
On this	day of	hata a san a s
		, before me, the undersigned notary public,
identification, which wer		, proved to me through satisfactory evidence of
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to me that the contents	of the desument are truthful and	ocument in my presence and swore or affirmed
and belief and acknowle	odged to me that (he) (ahe) sizes	accurate to the best of (his) (her) knowledge
and belief and acknowle	raged to me that (ne) (sne) signer	d it voluntarily for its stated purpose.
SEAL		
V / \L	Notary Public	
	Notary Fublic	
My commission expi	res:	
		The state of the s

Page 2 of 5

8-26-// Date	Inventor: John M. Antos Address: 1994 Mill Avenue 606 Lawrel Dr. Bellingham, WA 98225 Everett, WA 98a Citizenship: US
STATE/COMMONWEALTH OF	August , 2011 , before me, the undersigned notary public, n.M. Antos , proved to me through satisfactory evidence of
to be the person who signed the pre to me that the contents of the docum	eceding or attached document in my presence and swore or affirmed ment are truthful and accurate to the best of (his) (her) knowledge that (he) (she) signed it voluntarily for its stated purpose.
Sep My commission expires:	Notary Public 9/15/2014

Date	Inventor:	Maximilian Wei-Lin Popp
	Address:	12332 Main Campus Drive
		Lexington, MA 02421
	Citizenship:	US
	71.05	
STATE/COMMONWEAL COUNTY OF	_IHOF	
COUNTY OF	•	
On this	day of	, before me, the undersigned notary public,
personally appeared		, proved to me through satisfactory evidence of
identification, which were	ə	
		ocument in my presence and swore or affirmed
to me that the contents o	of the document are truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowled	dged to me that (he) (she) signe	d it voluntarily for its stated purpose.
SEAL		
-	Notary Public	
My commission expire	res:	

Page 4 of 5

Date	In	ventor: (Carla Guimaraes
	Ad	ddress: 1	Devonshire Place, Apt. 3101
		E	Boston, MA 02109
	Citize	enship: F	Portugal
STATE/COMMONWEAR	LTH OF		
COUNTY OF	*		
On this	day of		_, before me, the undersigned notary public,
personally appeared			proved to me through satisfactory evidence of
identification, which were		,	,
to be the person who sig	ned the preceding or att	ached do	cument in my presence and swore or affirmed
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and belief and acknowle	dged to me that (he) (she	e) signed	it voluntarily for its stated purpose.
SEAL			
	Notary Public	3	
My commission expi	roo		
wy commission expi	165.		

Page 5 of 5

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

- Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware 1. 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.

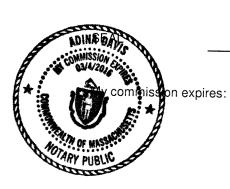
Date	Inventor:	Hidde L. Ploegh
	Address:	1 Toxteth Street
		Brookline, MA 02445
	Citizenship:	Netherlands
STATE/COMMONWEAL	_TH OF	
COUNTY OF	*,	
On this		, before me, the undersigned notary public,
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identification, which were		, , , , , , , , , , , , , , , , , , ,
		document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
		ed it voluntarily for its stated purpose.
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SEAL		
	Notary Public	
My commission ovni	roo:	
My commission expi	165.	

Date	Inventor:	John M. Antos
	Address:	1904 Mill Avenue
		Bellingham, WA 98225
	Citizenship:	US
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STATE/COMMONWEAL		
COUNTY OF		
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identification, which were		
		document in my presence and swore or affirmed
		accurate to the best of (his) (her) knowledge
and belief and acknowled	dged to me that (he) (she) signe	ed it voluntarily for its stated purpose.
SEAL		
-	Notary Public	
My commission expir		

8 25 2011	ma llon
Date Invento	or: Maximilian Wei-Lin Popp
Addres	The sampas blive a 12 / Bick file
	Lexington, MA 02421 Pillsford, NY 14
Citizenshi	
STATE/COMMONWEALTH OF MASSAChuse	atte
COUNTY OF MINNESOX :	<u> </u>
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On this 25" day of August, 2	DII_, before me, the undersigned notary public,
personally appearedMaximilian Wei-Lin Popp	, proved to me through satisfactory evidence of
identification, which were personal kn	iowledge.
to be the person who signed the preceding or attached	d 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.



Date	Inventor:	Carla Guimaraes
	Address:	1 Devonshire Place, Apt. 3101
		Boston, MA 02109
	Citizenship:	Portugal
STATE/COMMONWE	ALTH OF	
COUNTY OF	:	
On this		
On this	day of,	, before me, the undersigned notary public,
personally appeared dentification, which we	Carla Guimaraes	, proved to me through satisfactory evidence of
o me that the contents	of the desument are trutted.	locument in my presence and swore or affirmed
and belief and acknowled	lodged to me that (he) (the)	accurate to the best of (his) (her) knowledge
The belief and acknowl	edged to me that (ne) (sne) signed	d it voluntarily for its stated purpose.
SEAL		
	Notary Public	
My commission exp	pires:	

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Attorney Docket No. W0571.70021US02 2404972.1

Date		Inventor:	Hidde L. Ploegh
		Address:	1 Toxteth Street
			Brookline, MA 02445
	Ci	itizenship:	Netherlands
STATE/COMMONWE	ALTH OF		
COUNTY OF			
On this	day of		, before me, the undersigned notary public,
personally appeared	Hidde L. Ploeg		, proved to me through satisfactory evidence of
identification, which we	ere		,
to be the person who s	signed the preceding or	attached o	document in my presence and swore or affirmed
			accurate to the best of (his) (her) knowledge
and belief and acknow	ledged to me that (he)	(she) signe	ed it voluntarily for its stated purpose.
SEAL			
OLAL	Notary Pu	ublic	
My commission ex	nires:		
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Date		Inventor:	John M. Antos
		Address:	1904 Mill Avenue
			Bellingham, WA 98225
		Citizenship:	US
STATE/COMMONWE	ALTH OF	****	
COUNTY OF	***************************************	:	
On this	_ day of	······································	, before me, the undersigned notary public,
personally appeared			_, proved to me through satisfactory evidence of
identification, which we			
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			accurate to the best of (his) (her) knowledge
			d it voluntarily for its stated purpose.
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SEAL	***************************************		
		Notary Public	
My commission exp	oires:		

Page 3 of 5

Date	Inventor:	Maximilian Wei-Lin Popp
	Address:	12332 Main Campus Drive
		Lexington, MA 02421
	Citizenship:	US
STATE/COMMONWE	ALTH 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 we		
to be the person who s	igned the preceding or attached c	locument in my presence and swore or affirmed
		accurate to the best of (his) (her) knowledge
		d it voluntarily for its stated purpose.
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SEAL		
	Notary Public	

Page 4 of 5

08/26/11	Carla Guinaraes.
Date ' Inventor:	
Address:	
	Boston, MA 02109
Citizenship:	Portugal
STATE/COMMONWEALTH OF Massachus COUNTY OF Middlesex:	setts
personally appeared Carla Guimaraes	//_, before me, the undersigned notary public, _, proved to me through satisfactory evidence of
identification, which were <u>personal knowled</u>	
to be the person who signed the preceding or attached of to me that the contents of the document are truthful and	
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Notary Public	
corr hisson expires: 3-4.16	

Page 5 of 5

PATENT REEL: 026872 FRAME: 0549