# 505632444 08/21/2019

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5679250

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
SANGEETA N. BHATIA	10/24/2017
DARRELL J. IRVINE	10/25/2017
KARL DANE WITTRUP	01/30/2018
ANDREW DAVID WARREN	10/30/2017
JAIDEEP S. DUDANI	10/24/2017
NAVEEN K. MEHTA	06/14/2018
HOWARD HUGHES MEDICAL INSTITUTE	05/23/2016

### **RECEIVING PARTY DATA**

Name:	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
Street Address:	s: 77 MASSACHUSETTS AVENUE	
City:	CAMBRIDGE	
State/Country:	Intry: MASSACHUSETTS	
Postal Code: 02139		

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16091145

#### CORRESPONDENCE DATA

Fax Number:(617)646-8646Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent<br/>using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.Phone:6176468000

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Email:	patents_HelenL@wolfgreenfield.com
Correspondent Name:	WOLF, GREENFIELD & SACKS, P.C.
Address Line 1:	600 ATLANTIC AVENUE
Address Line 4:	BOSTON, MASSACHUSETTS 02210

ATTORNEY DOCKET NUMBER:	M0656.70383US01
NAME OF SUBMITTER:	HELEN C. LOCKHART
SIGNATURE:	/Helen C. Lockhart/
DATE SIGNED:	08/21/2019

### **Total Attachments: 45**

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#### ASSIGNMENT

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

Sell, assign and transfer to Massachusetts Institute of Technology. a 1. Massachusetts Non-profit Corporation having a place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts 02139, its successors, assigns and legal representatives, all hereinalter 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 International Application filed on April 7, 2017 under International Application No. PCT/US2017/028564, bearing Attorney Docket No. M0656.70383WO00, and entitled METHODS TO SPECIFICALLY PROFILE PROTEASE ACTIVITY AT LYMPH NODES, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, relissue and all other applications for Letters Patent, 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 designs; 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 and designs, 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, including a reasonable royalty relating to provisional rights under 35 U.S.C. § 154(d) that have attached to any published United States patent application, on the inventions and designs:

2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, 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 and designs, 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 designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;

3. Request the Director of the United States Patent and Trademark Office and foreign patent authorities to issue the Letters Patent or other intellectual property rights, including foreign patents, to the Assignee;

4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing application identification information or correct any errors in the application identification information provided above, whether discovered prior to or after recordation;

Attorney Docket No. M0856.70383WO00

5821256.1

PATENT REEL: 050148 FRAME: 0802 5. 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

6. 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. M0656.70383WO00

5821256.1

Oct. 24, 2017 Date

For myself and o as an agent of FAMERICA Howard Hughes Medical Institute BB osloi[18 Inventor: Sangeeta N/Bhatia Address: 32 Ingleside Road Lexington, MA 02420 UNITED STATES OF AMERICA Citizenship: US

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See Kg ~ Signature Sue Kangiser 25 Dortmouth St. Name: Address: Arlington, MA 02474

Witness: Oct. 24, 2017 Date

Signature

Name: Address: town, MA 02472

Attorney Docket No. M0656.70383WOOD

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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:	Sangeeta N. Bhatia
	Address:	32 Ingleside Road
		Lexington, MA 02420
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	)
	Name:	
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	Address:	
Witness:		
Date	Signature	<u></u>
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	Name:	
	Address:	

10/25/17 Date

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Inventor: Darrell J. Irvine Address: 17 Gray Street Arlington, Massachusetts 02476 UNITED STATES OF AMERICA

Citizenship: US

Witness:

10/251 Date

Valeris Coraze Signature Valerie Corapi 264 Bene Rd. Name: Address: Waltham MA 02453

Witness:

<u>10/25/2017</u> Date

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Signature

Mark S. Miller Name: 16 Colby Street Belmant, MA 02478 Address:

Attorney Docket No. M0656.70383WO00

## PATENT REEL: 050148 FRAME: 0808

Date	Inventor:	Karl Dane Wittrup
	Address:	48 Woodlawn Drive
		Chestnut Hill, Massachusetts 02467
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	9
	Name:	
	Address:	
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Witness:		
Date	Signature	9
	Name:	
	Address:	

22 Water Street	

Date

Date	Signature
	Name:
	Address:
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winess:	
Date	Signature
	Name:
	Address:

Inventor:	Jaideep S. Dudani
Address:	120 Peterborough Street
	Apt. 17
	Boston, Massachusetts 02115
	UNITED STATES OF AMERICA
Citizenship:	US

Date

Date	Signature
	Name:
	Address:
Witness:	
Date	Signature
	Name:
	Address:

Date		Naveen K. Mehta
	Address:	139 Otis Street
		Cambridge, Massachusetts 02141
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	
	Name:	
	numo.	
	Address:	
Witness:		
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Date	Inventor:	Sangeeta N. Bhatia
	Address:	32 Ingleside Road
		Lexington, MA 02420
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	)
	Name:	
	Hamo.	
	Address:	
Witness:		
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	Name:	
	Address:	

Date		Darrell J. Irvine
	Address:	17 Gray Street
		Arlington, Massachusetts 02476
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	9
	Name:	
	Address:	
	Address.	
Witness:		
Date	Signature	)
	Name:	
	name.	
	Address:	

Inventor: Karl Dane Wittrup

Address: 48 Woodlawn Drive Chestnut Hill, Massachusetts 02467 UNITED STATES OF AMERICA

Citizenship: US

Witness:

Signature

Name:

Address:

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Witness:

// Date

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Signature

Name: Address:

Valerie Corap; 264 Beal Rd. Waltham, MA 02453

Date

Date	Signature
	Name:
	Address:
Witness:	
Date	Signature
	Name:
	Address:

Inventor:	Jaideep S. Dudani
Address:	120 Peterborough Street
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Attorney Docket No. M0656.70383WO00

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2

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	Address:	32 Ingleside Road
		Lexington, MA 02420
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	9
	Name:	
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	Name:	
	Address	

Date	Inventor:	Karl Dane Wittrup
	Address:	48 Woodlawn Drive
		Chestnut Hill, Massachusetts 02467
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	9
	Name:	
	Address:	
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Date	Signature	9
	Name:	
	Address:	

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<u>30 Oct 2017</u> Date

Jul War

Inventor: Andrew David Warren Address: 22 Water Street #523 Cambridge, Massachusetts 02141 UNITED STATES OF AMERICA

Citizenship: US

Witness:

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Name:

ERIC HUANF

Address: 10 Sportmand ST Lexingerow, M4 02420

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flilene-Signature Name: CAZANAVE 3 Newbury Street Somerevine MA 02144 Address:

Attorney Docket No. M0656.70383WO00

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## PATENT REEL: 050148 FRAME: 0826

Inventor: Jaideep S. Dudani Address: 120 Peterborough Street Apt. 17 Boston, Massachusetts 02115 UNITED STATES OF AMERICA Citizenship: US

Witness:

Date

Date	Signature
	Name:
	Address:
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	Address:

Attorney Docket No. M0656.70383WO00

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Date	Inventor:	Naveen K. Mehta
		139 Otis Street
		Cambridge, Massachusetts 02141
		UNITED STATES OF AMERICA
	Citizenship:	
Witness:		
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# PATENT REEL: 050148 FRAME: 0830

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Address:	32 Ingleside Road		
	Lexington, MA 02420		
	UNITED STATES OF AMERICA		
Citizenship:	US		

Date

Date

Signature

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Address:

Witness:

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Address:

Inventor:	Darrell J. Irvine
Address:	17 Gray Street
	Arlington, Massachusetts 02476
	UNITED STATES OF AMERICA
Citizenship:	US

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Witness:

Date

Date

Signature

Name:

Address:

Witness:

Date

Signature

Name:

Address:

Inventor:	Karl Dane Wittrup
Address:	48 Woodlawn Drive
	Chestnut Hill, Massachusetts 02467
	UNITED STATES OF AMERICA
Citizenship:	US

Date

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Date

Signature

Name:

Address:

Witness:

Date

Signature

Name:

Address:

Attorney Docket No. M0656.70383WO00

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Inventor:	Andrew David Warren
Address:	22 Water Street
	#523
	Cambridge, Massachusetts 02141
	UNITED STATES OF AMERICA
Citizenship:	US

Date

Date	Signature
	Name:
	Address:
Witness:	
	<u></u>
Date	Signature
	Name:
	Address:

Attorney Docket No. M0656.70383WO00

# PATENT REEL: 050148 FRAME: 0834

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10/24/17 Date

Zindan

Inventor: Jaideep-S. Dudani Address: 120 Peterborough Street Apt. 17 Boston, Massachusetts 02115 UNITED STATES OF AMERICA

Citizenship: US

Witness:

10)24/2017 Date

Signature Name: NIL GURA Address: 881 MASSAGULISETTS AVE CAMBRIDGE, MA DZI39

Witness: Herny 10/24/12

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Signature / /		

Name:	Henry Ko
Address:	100 Exchange Stat Unit 517
	Malden, MA 02148

Attomey Docket No. M0656.70383WO00

## PATENT REEL: 050148 FRAME: 0835

Inventor:	Naveen K. Mehta
Address:	139 Otis Street
	Cambridge, Massachusetts 02141
	UNITED STATES OF AMERICA
Citizenship:	US

Date

Date

Signature

Name:

Address:

Witness:

Date

Signature

Name:

Address:

Attorney Docket No. M0656.70383WO00

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## ASSIGNMENT

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

Sell, assign and transfer to Massachusetts Institute of Technology, a 1. Massachusetts Non-profit Corporation having a place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts 02139, 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 International Application filed on April 7, 2017 under International Application No. PCT/US2017/026564, bearing Attorney Docket No. M0656.70383WO00, and entitled METHODS TO SPECIFICALLY PROFILE PROTEASE ACTIVITY AT LYMPH NODES, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, 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 designs; 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 and designs, 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, including a reasonable royalty relating to provisional rights under 35 U.S.C. § 154(d) that have attached to any published United States patent application, on the inventions and designs;

2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, 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 and designs, 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 designs 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 designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;

3. Request the Director of the United States Patent and Trademark Office and foreign patent authorities to issue the Letters Patent or other intellectual property rights, including foreign patents, to the Assignee;

4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing application identification information or correct any errors in the application identification information provided above, whether discovered prior to or after recordation;

5. 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

6. 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:	Sangeeta N. Bhatia
	Address:	32 Ingleside Road
		Lexington, MA 02420
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	)
	Name:	
	Hamo.	
	Address:	
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	Name:	
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Date		arrell J. Irvine
	Address: 1	7 Gray Street
	A	rlington, Massachusetts 02476
	U	NITED STATES OF AMERICA
	Citizenship: U	S
Witness:		
Date	Signature	
	Name:	
	Address:	
Witness:		
Date	Signature	
Dale	Signature	
	Name:	
	Address:	
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Date	Inventor:	Karl Dane Wittrup
	Address:	48 Woodlawn Drive
		Chestnut Hill, Massachusetts 02467
		UNITED STATES OF AMERICA
	Citizenship:	US
Witness:		
Date	Signature	9
	Name:	
	Address:	
	, aa 000.	
Witness:		
Date	Signature	9
	Name:	
	Address:	

	Inventor:	Andrew David Warren
Address:		22 Water Street
		#523
		Cambridge, Massachusetts 02141
		UNITED STATES OF AMERICA
	Citizenship:	US

Date

Date	Signature
	Name:
	Address:
Witness:	
Witness.	
Date	Signature
	Name:
	Address:

Inventor:	Jaideep S. Dudani
Address:	120 Peterborough Street
	Apt. 17
	Boston, Massachusetts 02115
	UNITED STATES OF AMERICA
Citizenship:	US

Date

Date	Signature
	Name:
	Address:
Witness:	
Date	Signature
	Name:
	Address:

6/inlis Date

Met Inventor: Naveen K. Mehta Address: 139 Otis Street Cambridge, Massachusetts 02141 UNITED STATES OF AMERICA

Citizenship: US

Witness: 6/14/18 Date

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Signature

Name:

Alison Tisdale 207 White St. Address:

Belmont, MA 02478

Witness:

6114118

Date

Signature

Name:

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Address:

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combindge, MA 02141

Attorney Docket No. M0656.70383WO00

PATENT REEL: 050148 FRAME: 0844

#### APPOINTMENT OF INVESTIGATOR AS AGENT

Appointment by the Howard Hughes Medical Institute ("HHMI") of Sangeeta Bhatia, MD, PhD, an employee of HHMI, as its agent for the purpose of assigning certain rights to Massachusetts Institute of Technology ("Institution").

WHEREAS, HHMI and Institution collaborate in the active conduct of medical research pursuant to an Agreement between them dated as of March 1, 2015 (the "Agreement");

WHEREAS, pursuant to the Agreement, HHMI has agreed to assign to Institution HHMI's rights in Subject Property (as defined in the Agreement) in accordance with and subject to the conditions of the Agreement;

WHEREAS, research conducted pursuant to the Agreement by Sangeeta Bhatia, MD, PhD while employed by HHMI at Institution has resulted in the invention of a certain Subject Property entitled "Methods to Specifically Profile Protease Activity at Lymph Nodes," which is the subject of a patent application entitled (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, HHMI wishes Sangeeta Bhatia, MD, PhD to act as its agent for the purpose of assigning to Institution the rights HHMI has in the Invention by reason of the research program conducted at Institution.

NOW THEREFORE, HHMI hereby appoints Sangeeta Bhatia, MD, PhD as its agent for the purpose of assigning the rights HHMI has or may acquire in the Invention to Institution in accordance with and subject to the conditions of the Agreement.

Executed: May 23, 2016

HOWARD HUGHES MEDICAL INSTITUTE

By:

Erin K. O'Shea, PhD Vice President and Chief Scientific Officer

ATTESTED:

Jug Henny

Heidi E. Henning Vice President and General Counsel

MIT 18619H HHMI 06269

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#### APPOINTMENT OF INVESTIGATOR AS AGENT

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Executed: May 23, 2016

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Erin K. O'Shea, PhD Vice President and Chief Scientific Officer

ATTESTED:

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Heidi E. Henning Vice President and General Counsel

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