505423494 04/11/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5470285

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JEFFREY ABEL	02/13/2019
LINGWEN CUI	02/13/2019
DEVRISHI GOSWAMI	02/13/2019
JOON HUH	02/13/2019
BHARADWAJ JAGANNATHAN	02/13/2019
SEKHAR KANAPURAM	02/13/2019
ARNOLD MCAULEY	04/05/2019
MICHAEL SCHNEIDER	02/13/2019
ANANTHAKRISHNAN G. SETHURAMAN	04/10/2019
MICHAEL TREUHEIT	02/13/2019
JUN ZHANG	02/13/2019

RECEIVING PARTY DATA

Name:	AMGEN INC.	
Street Address:	ONE AMGEN CENTER DRIVE	
City:	THOUSAND OAKS	
State/Country:	CALIFORNIA	
Postal Code:	91320-1799	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15972489

CORRESPONDENCE DATA

Fax Number: (312)474-0448

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 312-474-6300

Email: docket@marshallip.com

Correspondent Name: MARSHALL, GERSTEIN & BORUN LLP

Address Line 1: 233 SOUTH WACKER DRIVE

Address Line 2: SUITE 6300

Address Line 4: CHICAGO, ILLINOIS 60606

PATENT 505423494 REEL: 048862 FRAME: 0642

32243/51930A
LYNN L JANULIS
/Lynn L, Janulis, #53,066/
04/11/2019

source=51930A Assignment#page14.tif

PATENT REEL: 048862 FRAME: 0643

ASSIGNMENT

Whereas, I/we,

Jeff ABEL, 402 Willow Glen Circle, Simi Valley, California 93065, USA

Lingwen CUI, 359 Hodencamp Rd, Thousand Oaks, California 91360, USA

Devrishi GOSWAMI, 2876 Capella Way, Thousand Oaks, California, 91362, USA

Joon HUH, 4515 Berryman Ave, Culver City, California, 90230, USA

Bharadwaj JAGANNATHAN, 1663 Amarelle St. Thouand Oaks, California, 91320, USA

Sekhar KANAPURAM, 5676 Via Bonita, Thousand Oaks, California, 91320, USA

Arnold McAuley, 6931 Lafayette St, Moorpark, California, 91320, USA

Michael SCHNEIDER, 617 Racquet Club Ln, Thousand Oaks, California 91360, USA

Ananthakrishnan G. SETHURAMAN, 2107 Wynne Way, Jamison, Pennsylvania, 18929, USA

Michael TREUHEIT, 807 Pamela Wood St., Newbury Park, California 91320, USA

Jun ZHANG, 88 Via Magnolia, Newbury Park, California 91320, USA

(hereinafter referred to as ASSIGNOR), have made an invention which is the subject of an application for Letters Patent of the United States; and/or is the subject of a provisional application; and/or is the subject of an international application; and/or is the subject of other patent application(s) in other jurisdictions worldwide ("Application") entitled

US Application Serial No. 15/972,489 filed May 7, 2018; [which claims the benefit of U.S. Provisional Application No. 62/502,578 filed May 5, 2017.]

Whereas AMGEN INC., a Delaware corporation having its principal place of business at One Amgen Center Drive, Thousand Oaks, California 91320-1799 wishes to acquire the entire right, title, and interest in all inventions disclosed in such Application;

Now, therefore, in consideration of the sum of one dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns, transfers and sets over unto AMGEN INC., its successors and assigns (collectively "ASSIGNEE") ASSIGNOR'S entire right, title and interest in, to and under the Application, and any provisional application(s) from which Application is derived, and all priority rights to which the Application may be entitled, including all priority rights for other countries arising therefrom, all inventions therein disclosed, and any and all Letters Patent of the United States and of all other countries which may be granted for such inventions, or any of them, including divisional, continuation, continuation-in-part, substitute, reissue, and/or reexamination applications based on the above identified Application, all such inventions and all rights in such Application and

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Letters Patent to be held and enjoyed by ASSIGNEE for its own use and enjoyment to the full end of the term or terms for which such Letters Patent may be granted, and any extensions thereof, as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment and sale not been made.

Further, ASSIGNOR hereby sells, assigns, transfers, and sets over unto ASSIGNEE ASSIGNOR'S entire right, title and interest in or to the right to refer to, to access, and to control microorganism(s) or other biological material(s) related to the Application and which are deposited by ASSIGNOR or at ASSIGNOR'S direction or deposited on ASSIGNOR'S behalf by ASSIGNEE, its affiliates, employees, or employees of its affiliates. The transfer of such right, title and interest includes, without limitation, ASSIGNOR'S unreserved and irrevocable consent and authorization to ASSIGNEE to refer to the deposited microorganism(s) or other biological material(s) in the Application and the right to make available to the public the deposited material in accordance with the laws, treaties, statutes, rules, regulations and the like of the United States, all other countries, and any patent granting authority or organization.

ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States and any foreign Patent Office authority to issue any such Letters Patent which may be granted on the Application to ASSIGNEE as assignee of the entire right, title and interest therein and thereto.

For ASSIGNOR and for ASSIGNOR'S legal representatives, ASSIGNOR covenants and agrees with ASSIGNEE that ASSIGNOR has not granted to any others any license to make, use or sell any of such inventions, that ASSIGNOR'S right, title and interest in such inventions has not been encumbered, that ASSIGNOR has good right and title to sell and assign the same, and that ASSIGNOR will not execute any instrument in conflict herewith.

For ASSIGNOR and for ASSIGNOR'S heirs, successors and legal representatives, ASSIGNOR further covenants and agrees with ASSIGNEE that upon request ASSIGNOR and ASSIGNOR'S heirs, successors and legal representatives will: (i) execute continuing, divisional, substitute, reexamination, and/or reissue applications, amended specifications, or rightful declarations or oaths; (ii) communicate to ASSIGNEE any facts known to ASSIGNOR or ASSIGNOR'S heirs, successors and legal representatives relating to such inventions or the history thereof; (iii) execute preliminary statements and testify in any interference proceedings or litigation; (iv) execute and deliver any application papers, assignments, or other instruments; and (v) do all other acts which, in the opinion of counsel for ASSIGNEE, may be necessary or desirable to secure the grant of Letters Patent to ASSIGNEE or its nominees, in the United States and in all other countries where ASSIGNEE may desire to have such inventions, or any of them, patented, with specifications and claims in such form as shall be approved by counsel for ASSIGNEE and to vest and confirm in ASSIGNEE or its nominees the full and complete legal and equitable title to all such Letters Patent, without further consideration than that now paid at the expense of ASSIGNEE.

DECLARATION OF ACCEPTANCE

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On behalf of Assignee,	Stuart L. Watt
	Name.
	Vice President, Law and Intellectual Property
	Officer
	Title
hereby confirms Assignee's acceptance.	11-12111
April 8 2019	Jun X Watt
Date	Signature

In Witness Whereof I have executed this	assignment on	2/13	20_19
		(Month, Day)	(Year)
Jeffrey JestABEL			
(Name of Inventor)		//////////////////////////////////////	entor)
A notary public or other officer completing this signed the document to which this certificate is document.			
State of California			
County of Ventura			
on February 13,2019 1	octore me.	<u> </u>	ccaca
Notary Public, personally appeared	;	\$	
<u>Jeffel</u>	_JeffABEL		·····
TOMYAL TORRACA Notary Public - Carlistrala Ventura Carlistrala Corporation & 2228271 My Compa Express Jan 11, 2022	to be the perso the within instr she/they-execu capacity(ies), a the instrument	me on the basis of satisfants) whose name(s) (is satisfant) and acknowledges ted the same in his heave and that by his her their the person(s), or the enterson(s) acted, executed to	e subscribed to I to me that he heir authorized signature(s) on ity upon behalf
		r PENALTY OF PERIC State of California that ue and correct.	
	WITNESS my	hand and official seal.	
Place Notary Seal Above	Signature: 📐	1	LLuca

In Witness Whereof I have executed	this assignment on	021/3	20
		(Month, Day)	(Year)
Lingwen CUI		<u> </u>	
(Name of Inventor)		(Signature of Inves	ator)
A notary public or other officer completing signed the document to which this certifies document.	g this certificate verifies on tie is attached, and not the t	ly the identity of the individ ruthfulness, accuracy, or va	nal who lidity of that
State of California County of 1/2/1/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2			
on <u>Fabruary</u> 13,2019	_before me, <u>Ka</u>	za E Polgo	<u> </u>
Notary Public, personally appeared			
	Lingwen CUI		
NASEN E. PODGORNY Notary Public - California Ventura County	to be the person(s the within instrum she/they executed capacity(ies), and the instrument the	on the basis of satisface) whose name(s) is/are tent and acknowledged the same in his/her/their strates person(s), or the entition(s) acted, executed the	subscribed to to me that he/ eir authorized ignature(s) on y upon behalf
Ventura County Commission # 2780745 sky Comm. Expires Oct 78, 2022		ENALTY OF PERJUIT e of California that and correct.	
	WITNESS my ha	nd and official seal.	
Place Notary Scal Above	Signature:	Jane E.	1-igo

In Witness Whereof I have executed t 20	his assignment on	13ª fel	may, v
		(Month, Day)	(Year)
Devrishi GOSWAMI		Dentshi Goze	Jami,
(Name of Inventor)		(Signature of Inven	tor)
A notary public or other officer completing signed the document to which this certificat document.	this certificate verifies of e is attached, and not the	only the identity of the individu truthfulness, accuracy, or vali	al who
Sounty of Version a			
on <u>Edonuacia 15, 2019</u> Notary Public, personally appeared	_before me. <u>~{\}_0</u>	er E. Padgar	<u> </u>
3	Devrishi GOSWAM	I	
KAREN E. PODGORNY Notary Public - California Ventura County Commission # 2260745 By Comm. Expires Oct 28, 2022	to be the person(the within instruct she/they execute capacity(ies), and the instrument the	te on the basis of satisfact (s) whose name(s) is/are soment and acknowledged to d the same in his/her/the (d that by his/her/their signe person(s), or the entity son(s) acted, executed the	subscribed to to me that he/ ir authorized gnature(s) on upon behalf
		PENALTY OF PERJUR ite of California that the and correct.	
	WITNESS my ba	and and official seal.	
Piace Notary Seal Above	Signature:	<u> </u>	

6

In Witness Whereof I have executed thi	is assignment on PCV 12 2019. (Month, Day) (Year)
Joon HUH	The state of the s
(Name of Inventor)	(Signature of Inventor)
	is certificate verifies only the identity of the individual who is attached, and not the truthfulness, accuracy, or validity of that
State of California County of Venture	
on FDbourry 13,2009	before me, Karant Padgaray
Notary Public, personally appeared	
	Joon HUHe
KAREN E. POOGORNY Notary Public - Callfornis Ventura County Commission # 2260745 Ay Comm. Expires Oct 78, 2022	who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Place Notary Scal Above

WITNESS my hand and official seal.

Signature: 404 C. Poolson

In Witness Whereof I have executed this assignment on ____ Bharadwai JAGANNATHAN (Name of Inventor) (Signatore of Inventor) A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document. State of California County of Verture On 161x48cy 13,2014 before me, 10048 Notary Public, personally appeared Bharadwaj JAGANNATHAN who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) (is) are subscribed to the within instrument and acknowledged to me that (he/) she/they executed the same in his/her/their authorized TORYAL TORRACA Notary Public - California capacity(ies), and that by his/her/their signature(s) on Ventura County Commission # 2226271 the instrument the person(s), or the entity upon behalf My Comm. Expres Jan 11, 2022 of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. Signature: 10000 Place Notary Scal Above

In Witness Whereof I have executed t	his assignment on	Feb. 13	20_\^
		(Month, Day)	(Year)
Sekhar KANAPURAM		<u> </u>	i
(Name of Inventor)		(Signature of Inve	ntor)
A notary public or other officer completing signed the document to which this certifica document.			
State of California County of 1/4/14/24			
on <u>Fedoruary 13,201</u> 1	_before me, <u>Kar</u>	en E. Podg	2Y A 4
Notary Public, personally appeared	iekhar KANAPURAM	~	,
WAREN E. PORGORNY Hoxary Public - California Yentura County Commission # 2269745 My Comm. Expires Oct 28, 2922	who proved to me to be the person(s) the within instrume she/they executed capacity(ies), and the instrument the of which the perso I certify under PI laws of the State paragraph is true a	on the basis of satisfar whose name(s) is/ard ent and acknowledged the same in his/her/their state by his/her/their states acted, or the entines) acted, executed the SNALTY OF PERJUST of California that	subscribed to to me that he/ neir authorized signature(s) on ty upon behalf te instrument.
Piace Notary Seal Above	Signature:	Lase 8.	<u> </u>

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In Witness Whereof I have executed this assignment on (Month, Day) (Year) Amold MCAULEY (Šignäture of Inventor) (Name of Inventor)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

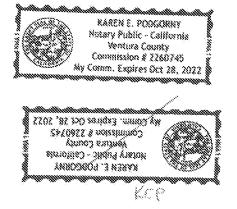
State of California

County of Vertura

5, 2019 before me, Karen E. Palarny,

Notary Public, personally appeared

Arnold MCAULEY



who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/ she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument,

I certify under PENALTY OF PERIURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal Above

Marie E. Jodgan

In Witness Whereof I have executed	this assignment on	Ebrussa	13 20 19
		(Month, D	ay) (Year)
Michael SCHNEIDER		withste	mu.
(Name of Inventor)		(Signature	of Inventor)
A notary public or other officer completing signed the document to which this certificationment.			
State of California County of 1/2/1/2/2			
on Florumy 12,2019) before me, X	<u> </u>	Wyarn,
Notary Public, personally appeared			`
	Michael SCHNEID	ER	
KAREN E. POECORNY Notary Public - California Ventura County Commission # 2260745 My Comm. Expires Oct 28, 2822	to be the person the within instraction she/they executed capacity(ies), and the instrument	n(s) whose name(sument and acknow ted the same in hi and that by his/her the person(s), or t	satisfactory evidence (i) is/are subscribed to /ledged to me that he/ s/her/their authorized /their signature(s) on he entity upon behalf cuted the instrument.
	•	tate of California	PERIURY under the a that the foregoing
	WITNESS my	hand and official s	eal.
Place Notary Seal Above	Signature: 🔙	<u>Haren</u> E	<u>· Polys</u>

In Witness Whereof I have executed t	his assignment on April, 10 2019.		
•	(Month, Day) (Year)		
Ananthakrishnan G. SETHURAM/ (Name of Inventor)	AN S. A. C. (Signature of Inventor)		
UNITED STATES OF AMERICA			
State/Commonwealth of <u>lennsylva</u> County of <u>Montal mary</u>	ss.		
On this the Day day of	Month , 2019, before me, Year, the undersigned Notary Public,		
personally appeared Ananthakrishnan	G. SETHURAMAN, Name(s) of Signers(s)		
	personally known to me - OR -		
	proved to me on the basis of satisfactory evidence		
	to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same for the purposes therein stated.		
OMMONWEALTH OF PENNSYLVANIA NOTARIAL SEAL Mark Dandrea, Notary Public Montgomery Twp., Montgomery County My Commission Expires March 8, 2021	WITNESS my hand and official seal. Signature of Notary Public		
MBER, PENNSYLVANIA ASSOCIATION OF NOTARIES	Mark Dr. Aren		
	March 8, 2021		
Place Notary Seal/Stamp Above	Any other Required Information (Printed Name of Notary, Expiration Date, etc.)		

In Witness Whereof I have executed	this assignment on _	Feb. 13	20
		(Month, Day)	(Year)
		-11/1, - 5 - 1	A Commission of the Commission
Michael TREUHEIT	<u></u>	<u>4/1// /1111/1/</u>	<u> </u>
(Name of Inventor)	,	/ Signature of Invet	itor)
A notary public or other officer completic signed the document to which this certific document.			
State of California			
County of \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			
On Florence 12, 2011 Notary Public, personally appeared	Michael TREUHEI	Ţ.	
KAREN E. POBCOMNY Notary Public - California Ventura Coumy Commission 8 3260745 My Comm. Expires Oct 28, 2022	to be the person the within instru she/they execute capacity(ies), ar the instrument t	ne on the basis of satisface (s) whose name(s) is/are ment and acknowledged od the same in his/her/thad that by his/her/their she person(s), or the entition(s) acted, executed the	subscribed to to me that he/ eir authorized ignature(s) on y upon behalf
	•	PENALTY OF PERJUI ate of California that a and correct.	
	WITNESS my b	and and official scal.	
	Signature:	Kare E-4	Polate

In Witness Whereof I have executed	I this assignment on $\frac{2/3}{20.7}$
	(Month, Day) (Year)
Jun ZHANG	In Jan Jan
(Name of Inventor)	(Signature of Inventor)
A notary public or other officer completing signed the document to which this certific document.	ng this certificate verifies only the identity of the individual who cate is attached, and not the truthfulness, accuracy, or validity of that
State of California County of \(\frac{\frac{1}{\infty} \frac{1}{\infty} \langle \frac{1}{\inft	3 /
On 1-2010019 5, 401 Notary Public, personally appeared	2 before me, <u>Haren E. Podgarny</u> ,
	Jun ZHANG
KAREN E. POOSORNY Metary Public - Callfornia Ventura County Commission # 2286745 My Comm. Expires Oct 28, 2022	who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERIURY under the
	laws of the State of California that the foregoing paragraph is true and correct.
	WITNESS my hand and official seal.
	7 / D . A. 12 A .

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Place Notary Seal Above

RECORDED: 04/11/2019