# 505538982 06/21/2019

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5585779

SUBMISSION TYPE: NEW ASSIGNMENT			
NATURE OF CONVEYANCE: AS	SSIGNMENT		
CONVEYING PARTY DATA			
Na	me Execution Date		
YUYA OGURO	05/09/2019		
SHIGEMITSU MATSUMOTO	05/09/2019		
TAKESHI WAKABAYASHI	05/09/2019		
NORIHITO TOKUNAGA	05/09/2019		
ΤΑΚU ΚΑΜΕΙ	05/09/2019		
MITSUHIRO ITO	05/09/2019		
SATOSHI MIKAMI	05/09/2019		
MASAKI SETO	05/09/2019		
SHINJI MORIMOTO	05/09/2019		
SHINJI NAKAMURA	05/09/2019		
SACHIE TAKASHIMA	05/09/2019		
MASATAKA MURAKAMI	05/09/2019		
MASAKI DAINI	05/09/2019		
ΜΑΚΟΤΟ ΚΑΜΑΤΑ	05/09/2019		
MINORU NAKAMURA	05/09/2019		
YASUFUMI WADA	04/18/2019		
HIROYUKI KAKEI	05/09/2019		
KAZUAKI TAKAMI	05/09/2019		
TAISUKE TAWARAISHI	05/09/2019		
JUMPEI AIDA	05/08/2019		
KOUICHI IWANAGA	04/16/2019		
SATOSHI YAMAMOTO	05/16/2019		

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## **PROPERTY NUMBERS Total: 1**

505538982

Property Type	Number
Application Number:	16366710
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DATE SIGNED:	06/21/2019
Total Attachments: 32	
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#### ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

TAKEDA PHARMACEUTICAL COMPANY LIMITED 1-1 Doshomachi 4-chome Chuo-ku, Osaka-shi, Osaka 541-0045 Japan

(hereinafter referred to as "ASSIGNEE") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions in and to this invention relating to

#### HETEROCYCLIC COMPOUND AND USE THEREOF

as set forth in this United States Patent Application

Check	executed con	currently herewith			
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	🛛 Serial No	16/366,710	· · · · · ·	Filed	<u>March 27, 2019</u>
	and				

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified application and all other applications for Letters Patent of the United States for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or

inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the law firm of **Foley & Lardner LLP** the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of **Foley & Lardner LLP** do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

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Page 6 of 8

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Name:	Haruyo KONDO	SIGNATURE Exampo	Conto Date	May 9, 2019			
NAMÉ	AND SIGNATURE OF INVENT	)R					
Name:	Kazuaki TAKAMI	SIGNATURE Kazuaki	Takami Date	May 9 2019			
NAME	AND SIGNATURE OF WITNES	SES	· · · · · ·				
Name:	Tomohiro MIHARA	SIGNATURE	/				
Name:	Haruyo KONDO	SIGNATURE Gary	tando Date	May 9, 20,9			
<u>NAME</u>	AND SIGNATURE OF INVENT	<u>OR</u>					
Name:	Taisuke TAWARAISHI	SIGNATURE <u>Taisuke 7</u>	awamishi Date	May. 9 2019			
<u>NAME</u>	AND SIGNATURE OF WITNES	SES					
Name:	Tomohiro MIHARA	SIGNATURE					
Name:	Haruyo KONDO	SIGNATURE Harry	fando Date	May 9, 20,9			
NI A MATZ	AND SIGNATION OF INVENT	OD.					
	AND SIGNATURE OF INVENT		~ 1	<b>.</b>			
Name:	Jumpei AIDA	SIGNATURE Jumper	<u>Aidu</u> Date	May 8, 2019			
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Name:	Haruyo KO <b>NDO</b>	SIGNATURE Harry	Konda Date	May 8, 2019			
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Page 7 of 8

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Name:		SIGNATURE		Date

Note: *Prima facie* evidence of execution may optionally be obtained by execution before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.

Page 8 of 8

#### ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

TAKEDA PHARMACEUTICAL COMPANY LIMITED 1-1 Doshomachi 4-chome Chuo-ku, Osaka-shi, Osaka 541-0045 Japan

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#### HETEROCYCLIC COMPOUND AND USE THEREOF

as set forth in this United States Patent Application

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one	executed on				
	Serial No.	<u>16/366,710</u>	<u> </u>	Filed	March 27, 2019
	and				~

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified application and all other applications for Letters Patent of the United States for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

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Page 1 of 8

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Page 4 of 8

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Name:	SIGNATURE	Date

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as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified application and all other applications for Letters Patent of the United States for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

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ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or

inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

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Page 2 of 8

NAME AND SIGNATURE OF INVE	NTOR	
Name: Yuya OGURO	SIGNATURE	Date
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Name: Takeshi WAKABAYASHI	SIGNATURE	Date
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Name:	SIGNATURE	Date
Name:	SIGNATURE	Date

Page 3 of 8

NAME	AND SIGNATURE OF INVENT	<u>DR</u>			
Name:	Taku KAMEI	SIGNATURE		Date	
NAME	AND SIGNATURE OF WITNES	SES			
Name:		SIGNATURE	· · ·	Date	
Name:		SIGNATURE		Date	
NAME	AND SIGNATURE OF INVENT	<u>OR</u>			
Name:	Mitsuhiro ITO	SIGNATURE		Date	
NAME	AND SIGNATURE OF WITNES	SES			
Name:		SIGNATURE		Date	
Name:		SIGNATURE		_ Date _	
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	AND SIGNATURE OF INVENT				•
Name:	Satoshi MIKAMI	SIGNATURE		_ Date _	
NAME	AND SIGNATURE OF WITNES	SES			
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<u>NAME</u>	AND SIGNATURE OF INVENT	<u>OR</u>			
Name:	Masaki SETO	SIGNATURE		Date	
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<u>NAME</u>	AND SIGNATURE OF INVENT	OR	
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NAME	AND SIGNATURE OF INVENT	TOR	
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Name:	Sachie TAKASHIMA	SIGNATURE	_ Date
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Name:	Masataka MURAKAMI	SIGNATURE	Date
NAME	AND SIGNATURE OF WITNE	SSES	
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Page 5 of 8

NAME 4	AND SIGNATURE OF INVE	NTOR	
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NAME .	AND SIGNATURE OF WITN	VESSES	•
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Name:	Makoto KAMATA	SIGNATURE	Date
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Name:		SIGNATURE	Date
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Name:	Minoru NAKAMURA	SIGNATURE	Date
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Name:		SIGNATURE	Date
Name:		SIGNATURE	Date
NAME	AND SIGNATURE OF INVE	NTOR	
Name:	Yasufumi WADA	SIGNATURE	Date
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Page 6 of 8

NAME AND SIGNATURE OF IN	VENTOR	
Name: Hiroyuki KAKEI	SIGNATURE	Date
NAME AND SIGNATURE OF W	<u>ITNESSES</u>	
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NAME AND SIGNATURE OF IN	VENTOR	
Name: Taisuke TAWARAISHI	SIGNATURE	Date
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Name:	SIGNATURE	Date
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NAME AND SIGNATURE OF IN	<b>WENTOR</b>	
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Name:	SIGNATURE	Date
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NAME	AND SIGNATURE OF INVENT	<u>OR</u>			
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NAME	AND SIGNATURE OF WITNES	SES			
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#### ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

TAKEDA PHARMACEUTICAL COMPANY LIMITED 1-1 Doshomachi 4-chome Chuo-ku, Osaka-shi, Osaka 541-0045 Japan

(hereinafter referred to as "ASSIGNEE") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions in and to this invention relating to

#### HETEROCYCLIC COMPOUND AND USE THEREOF

as set forth in this United States Patent Application

Check	executed cone	currently herewith		
one	executed on		• .	
	Serial No.	16/366,710	Filed	_March 27, 2019_
	and			

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified application and all other applications for Letters Patent of the United States for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

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Page 2 of 8

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Name:	Yuya OGURO	SIGNATURE	Date		
<u>NAME</u>	AND SIGNATURE OF WITNE	<u>ESSES</u>			
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Name:		SIGNATURE	Date		
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NAME	AND SIGNATURE OF INVEN	TOR			
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Name:	Satoshi MIKAMI	SIGNATURE	Date			
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NAME	NAME AND SIGNATURE OF INVENTOR					
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NAME	NAME AND SIGNATURE OF WITNESSES					
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Page 4 of 8

NAME A	AND SIGNATURE OF INVENT	<u>DR</u>				
Name:	Shinji MORIMOTO	SIGNATURE	_ Date			
NAME A	AND SIGNATURE OF WITNES	SES				
Name:		SIGNATURE	Date			
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NAME /	AND SIGNATURE OF INVENT	OR				
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Page 5 of 8

<u>NAME</u>	AND SIGNATURE OF INV	<u>ENTOR</u>				
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<u>NAME</u>	AND SIGNATURE OF INV	ENTOR				
Name:	Makoto KAMATA	SIGNATURE	Date			
<u>NAME</u>	AND SIGNATURE OF WI	<u>INESSES</u>				
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<u>NAME</u>	AND SIGNATURE OF INV	<u>'ENTOR</u>				
Name:	Minoru NAKAMURA	SIGNATURE	Date			
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<u>NAME</u>	NAME AND SIGNATURE OF INVENTOR					
Name:	Yasufumi WADA	SIGNATURE	Date			
NAME	AND SIGNATURE OF WI	<u>INESSES</u>	<i>i</i>			
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Page 6 of 8

<u>NAME</u>	AND SIGNATURE OF INVE	<u>NTOR</u>		
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NAME	AND SIGNATURE OF WITH	NESSES		
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Name:	Kazuaki TAKAMI	SIGNATURE	Date	
NAME	AND SIGNATURE OF WITH	NESSES		
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NAME	AND SIGNATURE OF INVE	INTOR		· .
Name:	Taisuke TAWARAISHI	SIGNATURE	Date	
NAME	AND SIGNATURE OF WIT	NESSES		
Name:		SIGNATURE	Date	
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NAME AND SIGNATURE OF INVENTOR				
Name:	Jumpei AIDA	SIGNATURE	Date	
NAME	AND SIGNATURE OF WIT	<u>NESSES</u>		
Name:		SIGNATURE	Date	
Name:		SIGNATURE	Date	

Page 7 of 8

#### NAME AND SIGNATURE OF INVENTOR Name: Kouichi IWANAGA SIGNATURE Date NAME AND SIGNATURE OF WITNESSES Name: SIGNATURE Date Name: SIGNATURE Date NAME AND SIGNATURE OF INVENTOR SIGNATURE Satesh' Yamamoto Date May 16, 2019 Name: Satoshi YAMAMOTO NAME AND SIGNATURE OF WITNESSES Date Name: SIGNATURE \_\_\_\_\_ SIGNATURE \_\_\_\_\_ Name: Date

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### PATENT REEL: 049558 FRAME: 0441

**RECORDED: 06/21/2019**