A 7639764

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TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON FEBRUARY 19, 2015.

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

D. Montgomery

W. MONTGOMERY
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3233530

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
RONGLIANG CHEN	02/18/2015
CHUNRONG MA	02/18/2015
CHRISTOPHER F MATTHEWS	02/19/2015
COLIN O'BRYAN	02/18/2015

RECEIVING PARTY DATA

Name:	TAKEDA CALIFORNIA, INC.
Street Address:	10410 SCIENCE CENTER DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	62115223

CORRESPONDENCE DATA

Fax Number: (858)550-0992

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: (858) 622-8528
Email: tsd.docket@takedasd.com
Correspondent Name: TAKEDA CALIFORNIA, INC.
Address Line 1: 10410 SCIENCE CENTER DRIVE
Address Line 4: SAN DIEGO, CALIFORNIA 92121

ATTORNEY DOCKET NUMBER:	SYK-5005-P1
NAME OF SUBMITTER:	MATTHEW J. RUSSO
SIGNATURE:	/Matthew J. Russo/
DATE SIGNED:	02/19/2015

Total Attachments: 2
source=SYK-5005-P1_Assignment_01_Inventors-TCAL#page1.tif
source=SYK-5005-P1_Assignment_01_Inventors-TCAL#page2.tif

ASSIGNMENT

WHEREAS, I/WE

Rongliang Chen, Chunrong Ma, Christopher F. Matthews, & Colin O'Bryan

hereinafter referred to as Assignor(s), have invented a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on February 12, 2015, under U.S. Application No. 62/115,223 and

WHEREAS, Takeda California, Inc., 10410 Science Center Drive, California 92121, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunder set his/her hand on the date shown below.

Date 02/18/2015

Assignor: Ronghiang Chen

Date 02/18/2015

Assignor: Chunrong Ma

Date 02/19/2015

Assignor: Christopher F. Matthews

Date 02/18/2015

Assignor: Colin O'Bryan

RECORDED: 02/19/2015

PATENT
REEL: 034988 FRAME: 0936

A 7639764

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON JANUARY 27, 2016.

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

UNITED STATES PATENT AND TRADEMARK OFFICE · DEPARTMENT OF COMMERCE

W. MONTGOMERY
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3713618

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
RONGLIANG CHEN	11/16/2015
CHUNRONG MA	11/13/2015
CHRISTOPHER MATTHEWS	11/10/2015
COLIN O'BRYAN	11/13/2015

RECEIVING PARTY DATA

Name:	TAKEDA CALIFORNIA, INC.
Street Address:	10410 SCIENCE CENTER DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	62180222

CORRESPONDENCE DATA

Fax Number: (269)337-7859

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: 2693377858
Email: vschipper@honigman.com
Correspondent Name: LUCY X. YANG
Address Line 1: 350 EAST MICHIGAN AVENUE
Address Line 2: SUITE 300
Address Line 4: KALAMAZOO, MICHIGAN 49007

ATTORNEY DOCKET NUMBER:	223266/373811
NAME OF SUBMITTER:	LUCY X. YANG
SIGNATURE:	/Lucy X. Yang/
DATE SIGNED:	01/27/2016

Total Attachments: 2
source=TCAL_ASSIGN#page1.tif
source=TCAL_ASSIGN#page2.tif

ASSIGNMENT

WHEREAS, I/WE

Rongliang Chen, Chunrong Ma, Christopher F. Matthews, & Colin O'Bryan

hereinafter referred to as Assignor(s), have invented a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on June 16, 2015, under U.S. Application No. 62/180,222 and

WHEREAS, Takeda California, Inc., 10410 Science Center Drive, California 92121, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunder set his/her hand on the date shown below.

Date 11-16-2015

Assignor: Rongliang Chen

Date 11-13-2015

Assignor: Chunrong Ma

Date 11-10-2015

Assignor: Christopher F. Matthews

Date 11/13/15 11/13/15

Assignor: Colin O'Bryan

RECORDED: 01/27/2016

PATENT
REEL: 037598 FRAME: 0567

A 7639764

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

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By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

W. MONTGOMERY
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3233497

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
RONGLIANG CHEN	01/16/2015
CHUNRONG MA	01/16/2015
CHRISTOPHER F. MATTHEWS	01/19/2015
COLIN O'BRYAN	01/16/2015

RECEIVING PARTY DATA

Name:	TAKEDA CALIFORNIA, INC.
Street Address:	10410 SCIENCE CENTER DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	62093564

CORRESPONDENCE DATA

Fax Number: (858)550-0992

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: (858) 622-8528
Email: tsd.docket@takedasd.com
Correspondent Name: TAKEDA CALIFORNIA, INC.
Address Line 1: 10410 SCIENCE CENTER DRIVE
Address Line 4: SAN DIEGO, CALIFORNIA 92121

ATTORNEY DOCKET NUMBER:	SYK-5005-P
NAME OF SUBMITTER:	MATTHEW J. RUSSO
SIGNATURE:	/Matthew J. Russo/
DATE SIGNED:	02/19/2015

Total Attachments: 2
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source=SYK-5005-P_Assignment_01_Inventors-TCAL#page2.tif

Docket No. SYK-5005-P

ASSIGNMENT

WHEREAS, I/WE

Rongliang Chen, Chunrong Ma, Christopher F. Matthews, & Colin O'Bryan

hereinafter referred to as Assignor(s), have invented a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on December, 18 2014, under U.S. Application No. 62/093,564 and

WHEREAS, Takeda California, Inc., 10410 Science Center Drive, California 92121, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunder set his/her hand on the date shown below.

Date 01/16/2015

Assignor: Rongliang Chen

Date 01/16/2015

Assignor: Chunrong Ma

Date 01/19/2015

Assignor: Christopher F. Matthews

Date 01/16/15

Assignor: Colin O'Bryan

RECORDED: 02/19/2015

PATENT
REEL: 034988 FRAME: 0803

A 7639764

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON FEBRUARY 19, 2015.

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

UNITED STATES PATENT AND TRADEMARK OFFICE · DEPARTMENT OF COMMERCE

W. Montgomery

W. MONTGOMERY
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3233536

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TAKEDA CALIFORNIA, INC.	02/19/2015

RECEIVING PARTY DATA

Name:	TAKEDA PHARMACEUTICAL COMPANY LIMITED
Street Address:	1-1, DOSHOMACHI 4-CHOME, CHUO-KU, OSAKA-SHI
City:	OSAKA
State/Country:	JAPAN
Postal Code:	541-0045

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	62115223

CORRESPONDENCE DATA

Fax Number: (858)550-0992

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: (858) 622-8528
Email: tsd.docket@takedasd.com
Correspondent Name: TAKEDA CALIFORNIA, INC.
Address Line 1: 10410 SCIENCE CENTER DRIVE
Address Line 4: SAN DIEGO, CALIFORNIA 92121

ATTORNEY DOCKET NUMBER:	SYK-5005-P1
NAME OF SUBMITTER:	MATTHEW J. RUSSO
SIGNATURE:	/Matthew J. Russo/
DATE SIGNED:	02/19/2015

Total Attachments: 2
source=SYK-5005-P1_Assignment_02_TCAL-TPC#page1.tif
source=SYK-5005-P1_Assignment_02_TCAL-TPC#page2.tif

ASSIGNMENT

WHEREAS, I/WE **Takeda California, Inc.**, hereinafter referred to as Assignor(s), own rights in a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on February 12, 2015, under U.S. Application No. 62/115,223 and

WHEREAS, Takeda Pharmaceutical Company Limited, 1-1, Doshomachi 4-chome, Chuo-ku, Osaka 541-0045 Japan, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

PATENT
REEL: 034988 FRAME: 0959

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunder set his/her hand on the date shown below.

Date: February 19, 2015

Name: David J. Weitz
Title: General Counsel
Takeda California, Inc.

RECORDED: 02/19/2015

PATENT
REEL: 034988 FRAME: 0960

A 7639764

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON JANUARY 27, 2016.

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

UNITED STATES PATENT AND TRADEMARK OFFICE
DEPARTMENT OF COMMERCE

W. MONTGOMERY
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3713672

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TAKEDA CALIFORNIA, INC.	11/16/2015

RECEIVING PARTY DATA

Name:	TAKEDA PHARMACEUTICAL COMPANY LIMITED
Street Address:	1-1 DOSHOMACHI 4-CHOME
Internal Address:	CHUO-KU
City:	OSAKA
State/Country:	JAPAN
Postal Code:	541-0045

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	62180222

CORRESPONDENCE DATA

Fax Number: (269)337-7859

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: 2693377746
Email: vschipper@honigman.com
Correspondent Name: LUCY X. YANG
Address Line 1: 350 EAST MICHIGAN AVENUE
Address Line 2: SUITE 300
Address Line 4: KALAMAZOO, MICHIGAN 49007

ATTORNEY DOCKET NUMBER:	223266/373811
NAME OF SUBMITTER:	LUCY X.YANG
SIGNATURE:	/Lucy X. Yang/
DATE SIGNED:	01/27/2016

Total Attachments: 2
source=TCAL_to_TPC#page1.tif
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ASSIGNMENT

WHEREAS, I/WE **Takeda California, Inc.**, hereinafter referred to as Assignor(s), own rights in a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on June 16, 2015, under U.S. Application No. 62/180,222 and

WHEREAS, Takeda Pharmaceutical Company Limited, 1-1, Doshomachi 4-chome, Chuo-ku, Osaka 541-0045 Japan, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunder set his/her hand on the date shown below.

Date: November 16, 2015

Name: David J. Weitz
Title: General Counsel
Takeda California, Inc.

RECORDED: 01/27/2016

PATENT
REEL: 037598 FRAME: 0774

A 7639764

THE UNITED STATES OF AMERICA

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

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and Director of the United States Patent and Trademark Office

W. MONTGOMERY
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3233510

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TAKEDA CALIFORNIA, INC.	01/21/2015

RECEIVING PARTY DATA

Name:	TAKEDA PHARMACEUTICAL COMPANY LIMITED
Street Address:	1-1, DOSHOMACHI 4-CHOME, CHUO-KU, OSAKA-SHI
City:	OSAKA
State/Country:	JAPAN
Postal Code:	541-0045

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	62093564

CORRESPONDENCE DATA

Fax Number: (858)550-0992

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: (858) 622-8528
Email: tsd.docket@takedasd.com
Correspondent Name: TAKEDA CALIFORNIA, INC.
Address Line 1: 10410 SCIENCE CENTER DRIVE
Address Line 4: SAN DIEGO, CALIFORNIA 92121

ATTORNEY DOCKET NUMBER:	SYK-5005-P
NAME OF SUBMITTER:	MATTHEW J. RUSSO
SIGNATURE:	/Matthew J. Russo/
DATE SIGNED:	02/19/2015

Total Attachments: 2
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ASSIGNMENT

WHEREAS, I/WE **Takeda California, Inc.**, hereinafter referred to as Assignor(s), own rights in a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on December, 18 2014, under U.S. Application No. 62/093,564 and

WHEREAS, Takeda Pharmaceutical Company Limited, 1-1, Doshomachi 4-chome, Chuo-ku, Osaka 541-0045 Japan, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

PATENT
REEL: 034988 FRAME: 0847

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunder set his/her hand on the date shown below.

Date: January 21, 2015

David Weitz

Name: David J. Weitz
Title: General Counsel
Takeda California, Inc.

RECORDED: 02/19/2015

PATENT
REEL: 034988 FRAME: 0848

A 7639764

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON APRIL 22, 2015.

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

M. Tarver

M. TARVER
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3320667

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TOMONORI ICHIBAKASE	02/24/2015
HAJIME MOTOYOSHI	02/24/2015
KENTARO YAJI	02/25/2015
NAOKI YOSHIKAWA	02/26/2015

RECEIVING PARTY DATA

Name:	TAKEDA PHARMACEUTICAL COMPANY LIMITED
Street Address:	1-1, DOSHOMACHI 4-CHOME, CHUO-KU, OSAKA-SHI,
City:	OSAKA
State/Country:	JAPAN
Postal Code:	541-0045

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	62115223

CORRESPONDENCE DATA

Fax Number:

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: 617 679 7000
Email: ann.sherry@takeda.com, ann.sherry@mpi.com, ipdocketing@takeda.com
Correspondent Name: MILLENNIUM PHARMACEUTICALS, INC.
Address Line 1: 40 LANDSDOWNE STREET
Address Line 4: CAMBRIDGE, MASSACHUSETTS 02139

ATTORNEY DOCKET NUMBER:	MPI14-009P2M
NAME OF SUBMITTER:	MAYA E. COLE
SIGNATURE:	/Maya E. Cole/
DATE SIGNED:	04/22/2015

Total Attachments: 4
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Docket No. MPI14-009P2M

ASSIGNMENT

WHEREAS,

1. **Tomonori ICHIBAKASE** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
2. **Hajime MOTOYOSHI** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
3. **Kentaro YAJI** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
4. **Naoki YOSHIKAWA** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan

hereinafter referred to as Assignor(s), have invented a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on February 12, 2015, under U.S. Application No. 62/115,223, and

WHEREAS, **TAKEDA PHARMACEUTICAL COMPANY LIMITED** of **1-1, Doshomachi 4-chome, Chuo-ku, Osaka-shi, Osaka 541-0045 Japan,** hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunto set their hand on the dates indicated below.

Tomonori Ichibakase	February 24, 2015
Assignor Tomonori ICHIBAKASE	Date
Takashi Watanabe	February 24, 2015
Witness Takashi WATANABE	Date
Hiroyuki Maeda	February 24, 2015
Witness Hiroyuki MAEDA	Date

Hajime Motoyoshi
Assignor Hajime MOTOYOSHI

February 24. 2015
Date

Yasushi Isogami
Witness Yasushi ISOGAMI

February 24. 2015
Date

Tatsuya Ito
Witness Tatsuya ITO

February 24. 2015
Date

Kentaro Yaji
Assignor Kentaro YAJI

February 25, 2015
Date

Hiroyuki Irie
Witness Hiroyuki IRIE

February 25, 2015
Date

Yuuhei Yamamoto
Witness Yuuhei YAMAMOTO

February 25, 2015
Date

N. Yoshikawa
Assignor Naoki YOSHIKAWA

February 26, 2015
Date

Sayuri Hirano
Witness Masayuki YAMASHITA

February 26, 2015
Date

Masayuki Yamashita
Witness Sayuri HIRANO

February 26, 2015
Date

March 2, 2015

Name: Yoichi OKUMURA
Date
Title: General Manager, Intellectual Property Department
of Takeda Pharmaceutical Company Limited
Officer of Authorized Representative of Assignee

March 2, 2015

Witness / Yoko NII
Date

March 2, 2015

Witness / Izumi SHIMIZU
Date

A 7639764

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON JANUARY 27, 2016.

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

W. MONTGOMERY
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3713492

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TOMONORI ICHIBAKASE	11/04/2015
HAJIME MOTOYOSHI	11/18/2015
KENTARO YAJI	11/12/2015
NAOKI YOSHIKAWA	11/16/2015

RECEIVING PARTY DATA

Name:	TAKEDA PHARMACEUTICAL COMPANY LIMITED
Street Address:	1-1, DOSHOMACHI 4-CHOME
Internal Address:	CHUO-KU, OSAKA-SHI
City:	OSAKA
State/Country:	JAPAN
Postal Code:	541-0045

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	62180222

CORRESPONDENCE DATA

Fax Number: (269)337-7859

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: 2693377858
Email: vschipper@honigman.com
Correspondent Name: LUCY X. YANG
Address Line 1: 350 EAST MICHIGAN AVENUE
Address Line 2: SUITE 300
Address Line 4: KALAMAZOO, MICHIGAN 49007

ATTORNEY DOCKET NUMBER:	223266/373811
NAME OF SUBMITTER:	LUCY X. YANG
SIGNATURE:	/Lucy X. Yang/
DATE SIGNED:	01/27/2016

Total Attachments: 4

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Docket No. MPI14-009P3

ASSIGNMENT

WHEREAS,

1. **Tomonori ICHIBAKASE** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
2. **Hajime MOTOYOSHI** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
3. **Kentaro YAJI** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
4. **Naoki YOSHIKAWA** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan

hereinafter referred to as Assignor(s), have invented a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on June 16, 2015, under U.S. Application No. 62/180,222, and

WHEREAS, **TAKEDA PHARMACEUTICAL COMPANY LIMITED** of **1-1, Doshomachi 4-chome, Chuo-ku, Osaka-shi, Osaka 541-0045 Japan,** hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunto set their hand on the dates indicated below.

==========

Tomonori Ichibakase — November 4, 2015

Assignor Tomonori ICHIBAKASE — Date

Hiroyuki Maeda — November 4, 2015

Witness Hiroyuki MAEDA — Date

Takashi Watanabe — November 4, 2015

Witness Takashi WATANABE — Date

==========

Hajime Motoyoshi — November 18. 2015
Assignor Hajime MOTOYOSHI — Date

Tatsuya Ito — November 18. 2015
Witness Tatsuya ITO — Date

Yasushi Isogami — November 18. 2015
Witness Yasushi ISOGAMI — Date

==========

Kentaro Yagi — November 12, 2015
Assignor Kentaro YAGI — Date

Hiroyuki Irie — November 12, 2015
Witness Hiroyuki IRIE — Date

Yuhei Yamamoto — November 12, 2015
Witness Yuhei YAMAMOTO — Date

==========

Naoki Yoshikawa — November 16, 2015
Assignor Naoki YOSHIKAWA — Date

Keisuke Majima — November 16, 2015
Witness Keisuke MAJIMA — Date

Koichi Murai — November 16, 2015
Witness Koichi MURAI — Date

==========

Yoichi Okumura November 26, 2015

Name: Yoichi OKUMURA Date

Title: Global Head of IP of Takeda Pharmaceutical Company Limited
Officer of Authorized Representative of Assignee

Kiyomi Nakano November 26, 2015

Witness Kiyomi NAKANO Date

Izumi Shimizu November 26, 2015

Witness Izumi SHIMIZU Date

==========

A 7639764

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

June 22, 2017

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON APRIL 22, 2015.

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

UNITED STATES PATENT AND TRADEMARK OFFICE
DEPARTMENT OF COMMERCE

W. MONTGOMERY
Certifying Officer

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Docket No. MPI14-009P1M

ASSIGNMENT

WHEREAS,

1. **Tomonori ICHIBAKASE** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
2. **Hajime MOTOYOSHI** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
3. **Kentaro YAJI** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan
4. **Naoki YOSHIKAWA** residing at c/o TAKEDA PHARMACEUTICAL COMPANY LIMITED, 17-85, Jusohonmachi 2-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0024 JAPAN and a citizen of Japan

hereinafter referred to as Assignor(s), have invented a certain invention entitled:

SOLID STATE FORMS OF FUSED HETEROAROMATIC PYRROLIDINONES

for which invention an application (provisional or non-provisional) for a U.S. patent was filed on December 18, 2014, under U.S. Application No. 62/093,564, and

WHEREAS, **TAKEDA PHARMACEUTICAL COMPANY LIMITED** of **1-1, Doshomachi 4-chome, Chuo-ku, Osaka-shi, Osaka 541-0045 Japan,** hereinafter referred to as Assignee, is desirous of acquiring the entire right, title, and interest in, to, and under the invention described in the patent application, including the entire priority right derived from the application,

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

Assignor(s) assign and transfer to Assignee and Assignee's legal representatives, successors, and assigns the entire right, title, and interest in, to, and under the invention, the referenced patent application, and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, national and regional phase applications, petty patent applications, and utility model applications) that may be filed in the U.S. and/or any country foreign to the U.S. on the invention, and the patents that may issue thereon,

Assignor(s) convey to the Assignee the right to make applications in Assignee's own behalf for protection of the invention in the U.S. and countries foreign to the U.S. and to claim priority to the referenced patent application and other such applications that may be filed in the U.S. or any country foreign to the U.S. on the invention under the Patent Cooperation Treaty, the Paris Convention, and any other international arrangements,

Assignor(s) will not execute any writing or do any act conflicting with the terms of this assignment,

Assignor(s) will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to pursue the patent applications identified herein, including, but not limited to, rendering all necessary assistance in making applications for and obtaining patents that may issue thereon in the U.S. and any countries foreign to the U.S. on the invention, and in enforcing any rights accruing as a result of such applications or patents, by, for example, executing statements and other affidavits,

Assignor(s) and Assignee agree the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto,

Assignor(s) authorize Assignee to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment by any or all of the parties hereto,

Assignor(s) and Assignee agree that U.S. law governs this assignment, and

Assignee acknowledges and accepts this assignment, as evidenced by the signature of an officer or authorized representative of Assignee below.

IN WITNESS WHEREOF, Assignor has hereunto set their hand on the dates indicated below.

Tomonori Ichibakase
Assignor Tomonori ICHIBAKASE

January 28, 2015
Date

Osamu Yabe
Witness Osamu YABE

January 28, 2015
Date

Hiroaki Hoshikawa
Witness Hiroaki HOSHIKAWA

January 28, 2015
Date

Hajime Motoyoshi
Assignor Hajime MOTOYOSHI
January 28, 2015
Date

Tatsuya Ito
Witness Tatsuya ITO
January 28, 2015
Date

Yasushi Isogami
Witness Yasushi ISOGAMI
January 28, 2015
Date

Kentaro Yaji
Assignor Kentaro YAJI
January 29, 2015
Date

Toshiaki Kimura
Witness Toshiaki KIMURA
January 29, 2015
Date

Hiroyuki Irie
Witness Hiroyuki IRIE
January 29, 2015
Date

Naoki Yoshikawa
Assignor Naoki YOSHIKAWA
January 29, 2015
Date

Keisuke Majima
Witness Keisuke MAJIMA
January 29, 2015
Date

Mitsuru Nonogawa
Witness Mitsuru NONOGAWA
January 29, 2015
Date

Yoichi Okumura February 10, 2015

Name: Yoichi OKUMURA *Date*

Title: General Manager, Intellectual Property Department
of Takeda Pharmaceutical Company Limited
Officer of Authorized Representative of Assignee

Maiko Hirai February 10, 2015

Witness Maiko HIRAI Date

Izumi. Shimizu February 10, 2015

Witness Izumi SHIMIZU Date

Docket No. MPI14-009P1M

Yoichi Okumura — February 10, 2015
Name: Yoichi OKUMURA — Date
Title: General Manager, Intellectual Property Department
of Takeda Pharmaceutical Company Limited
Officer of Authorized Representative of Assignee

Maiko Hirai — February 10, 2015
Witness Maiko HIRAI — Date

Izumi Shimizu — February 10, 2015
Witness Izumi SHIMIZU — Date

PHILIPPI PRIETOCARRIZOSA FERRERO DU & URÍA
INTELLECTUAL PROPERTY
POWER OF ATTORNEY FOR I.P. MATTERS

The undersigned HIROYA OKUMURA, acting as legal representative of **TAKEDA PHARMACEUTICAL COMPANY LIMITED** domiciled in and existing in accordance to the laws of Japan, hereby appoints **MAURICIO PATIÑO, JORGE DI TERLIZZI** and/or **MARTÍN CARRIZOSA** domiciled in Bogotá D.C., Republic of Colombia, as our true and legal attorneys with the necessary powers:

1) To apply to the administrative, judicial and police authorities of the Republic of Colombia, in any instance or appeal, for obtaining registration of patents, specifically the prosecution of patent PCT/IB2015/002489; and 2) To prepare, apply for, obtain, execute and register contracts, licenses, authorizations and registrations of any kind that may be required for the prosecution of patent PCT/IB2015/002489;

To this effect, I (we) hereby authorize them to file applications, make descriptions, protests, amendments, declarations, oppositions, cancellations, appeals and claims; to pay taxes, quotas and liens as provided by Law; to waive or abandon granted rights or rights in process of being granted, to receive all kind of documents and securities; to issue the respective releases and, in general, to take, before said authorities, pertinent steps to the above mentioned purposes and take all measures they may deem advisable to protect my (our) interests, with all other necessary legal faculties, and I (we) hereby declare as good and valid whatever the attorneys should do to my (our) benefit.

This power comprises the authority to ratify or confirm on my (our) behalf any action, as well as the faculty of receiving, desisting, transacting, conciliating, compromising, substituting and revoking substitutions, taking notifications, and appointing judicial or extra-judicial attorneys in Colombia and in any other jurisdiction.

Signed in Cambridge, MA, U.S.A., on June 14, 2017.

HIROYA OKUMURA, GLOBAL HEAD OF IP
Legal representative - **TAKEDA PHARMACEUTICAL COMPANY LIMITED**
I.D. N°

PHILIPPI PRIETOCARRIZOSA FERRERO DU & URÍA
PROPIEDAD INTELECTUAL
PODER GENERAL PARA ASUNTOS DE PROPIEDAD INTELECTUAL

Yo HIROYA OKUMURA obrando en calidad de representante legal de **TAKEDA PHARMACEUTICAL COMPANY LIMITED** sociedad legalmente constituida de conformidad con las leyes de Japón, actualmente vigente y en ejercicio, domiciliada en Japón, por medio del presente documento, nombro a **MAURICIO PATIÑO, JORGE DI TERLIZZI** y **MARTÍN CARRIZOSA** con domicilio en Bogotá D.C., República de Colombia, apoderados verdaderos y legales con poder especial, amplio y suficiente:

1) Para recabar de las oficinas y autoridades administrativas, judiciales y de policía colombianas, en cualquier instancia o recurso, la obtención de registros de patentes de invención, en especial para tramitar la fase nacional de la patente PCT/IB2015/002489; y 2) Elaborar, tramitar, solicitar, obtener, realizar, ejecutar y registrar contratos, licencias, autorizaciones y registros de cualesquiera clases o cualquier otra gestión encaminada en la obtención de la fase nacional de la patente PCT/IB2015/002489;

A este efecto, los facultamos para elevar solicitudes, formular descripciones, enmiendas, protestas, declaraciones, oposiciones, cancelaciones, apelaciones, inscripción de afectaciones y reclamos; pagar impuestos, cuotas y gravámenes prescritos por la Ley; renunciar o desistir a derechos concedidos o en curso de concesión; recibir toda clase de documentos y valores dando el descargo respectivo, y en general, para dar ante dichas autoridades todos los pasos necesarios al efecto indicado y tomar todas las medidas que creyeren conducentes al resguardo de mis (nuestros) intereses, con todas las facultades necesarias, y por este documento desde ahora declaro(amos) válido y bueno todo cuanto los apoderados hicieren en mi (nuestro) beneficio.

Este poder comprende la facultad de ratificar o confirmar en mi (nuestro) nombre lo actuado, así como la facultad de recibir, desistir, transigir, conciliar, comprometer, sustituir y revocar sustituciones, recibir notificaciones y nombrar apoderados judiciales o extrajudiciales en Colombia y en cualquiera otra jurisdicción.

Firmado en _____, el __ de _____de 2017.

HIROYA OKUMURA, GLOBAL HEAD OF IP
Representante Legal – **TAKEDA PHARMACEUTICAL COMPANY LIMITED**