



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

AUGUST 5, 2020

PTAS

BLUEBIRD BIO, INC.
60 BINNEY STREET
CAMBRIDGE, MA 02142

506187090

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT RECORDATION BRANCH OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE ASSIGNMENT RECORDATION BRANCH AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT RECORDATION BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 08/04/2020

REEL/FRAME: 053396/0408
NUMBER OF PAGES: 10

BRIEF: CORRECTIVE ASSIGNMENT TO CORRECT THE INVENTOR'S NAME BENJAMINE BOYERINAS TO BENJAMIN BOYERINAS PREVIOUSLY RECORDED ON REEL 053265 FRAME 0219. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT.

DOCKET NUMBER: BLUE-122.PC

ASSIGNOR:
MANN, JASDEEP

DOC DATE: 07/08/2020

ASSIGNOR:
BOYERINAS, BENJAMIN

DOC DATE: 07/07/2020

ASSIGNEE:
BLUEBIRD BIO, INC.
60 BINNEY STREET
CAMBRIDGE, MASSACHUSETTS 02142

APPLICATION NUMBER:
PATENT NUMBER:
PCT NUMBER: US2020031796
TITLE: ENGINEERED T CELLS

FILING DATE: 05/07/2020
ISSUE DATE:

ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

ASSIGNMENT

Jasdeep MANN, having a mailing address of 4775 NE 203rd Street, Lake Forest Park, WA 98155 and **Benjamin BOYERINAS**, having a mailing address of 170 Coolidge St., Apt 1, Brookline, Massachusetts 02446 (each referred to as “Assignor”) has made an invention(s) (the “Invention(s)”) set forth in an application for patent entitled **ENGINEERED T CELLS**, and which is a:

☒ PCT application

(a) ☒ bearing Application No. **PCT/US2020/031796**, and filed on **May 7, 2020**.

WHEREAS, **bluebird bio, Inc.**, a corporation duly organized under and pursuant to the laws of Delaware, and having its principal place of business at **60 Binney Street, Cambridge, MA 02142**, its successors, legal representatives and assigns, (the “Assignee”), is desirous of acquiring the entire right, title, and interest in: the Invention(s); the application(s) for patent identified above; the right to file applications for patent of the United States or other countries on the Invention(s); any application(s) for patent of the United States or other countries claiming priority to, and/or the benefit of, these applications; any provisional or other right to recover any and all past, present, and future damages, including royalties, for any and all past, present, and future infringements of these application(s); and any and all patent(s) of the United States or other countries that may be granted therefor or thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, and to the extent that the Assignor has not done so already via a prior agreement with the Assignee or a predecessor in interest of the Assignee, or if the Assignor has already done so via a prior agreement with the Assignee or a predecessor in interest of the Assignee then in confirmation of any obligation to do so in said prior agreement, the Assignor has sold, assigned, transferred, and set over, and by these presents does sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns, the Assignor’s entire right, title, and interest in:

(a) the Invention(s);

(b) the application(s) for patent identified above;

(c) the right to file applications for patent of the United States or other countries on the Invention(s), including all rights under the Hague Convention, the Paris Convention for the Protection of Industrial Property, and under the Patent Cooperation Treaty, and all rights of claiming priority in any country of the world;

(d) any application(s) for patent of the United States or other countries claiming the Invention(s);

(e) any application(s) for patent of the United States or other countries claiming priority to, and/or the benefit of, at least one of the application(s) for patent identified above or any application(s) for patent claiming the Invention(s), including any priority application(s), substitute application(s), divisional(s), continuation(s), and continuation(s)-in-part;

(f) any provisional or other right to recover any and all past, present, and future damages, including royalties, for any and all past, present, and future infringements of any application for patent identified in the preceding paragraphs (b)-(e) and of any and all patent(s) granted based thereon in the United States and in all other countries; and

(g) any patent(s) of the United States or other countries that may be granted for or on any application for patent identified in the preceding paragraphs (b)-(e), including any reissue(s), reexamination(s), revival(s), renewal(s) and extension(s) of said patent(s).

The above-granted rights, titles, and interests are to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, as fully and entirely as the same would have been held and enjoyed by the Assignor had this sale and assignment not been made.

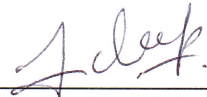
The Assignor hereby represents to the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, or if applicable, at such time said prior agreement was executed, the Assignor is a lawful owner of an undivided interest in the entire right, title, and interest in and to the Invention(s), that the Invention(s) are unencumbered, except, if applicable, by obligation to assign in accordance with said prior agreement, and that the Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth herein, and that Assignor will not make or enter into any assignment, sale, agreement or encumbrance which would conflict with these presents.

The Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives, and assigns, that the Assignor will sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done in connection with any and all proceedings for the procurement, maintenance, enforcement and defense of the Invention(s), said application(s), and said patent(s), including interference and derivation proceedings, and any post-grant proceedings (e.g., opposition proceedings, post-grant reviews, *Inter partes* reviews, supplemental examinations, etc.) without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns.

The Assignor hereby requests the Commissioner of Patents to issue said patents of the United States to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Date: July 08, 2020

By: _____



Jasdeep MANN

Witness: _____



DANIEL DEMONTE

Name (Printed): _____

Date: _____

By: _____

Benjamin BOYERINAS

Witness: _____

Name (Printed):

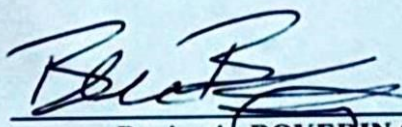
Date: _____

By: _____
Jasdeep MANN

Witness: _____

Name (Printed):

Date: 7/7/20

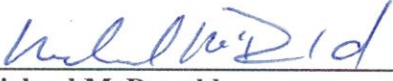
By: 
Benjamin BOYERINAS

Witness: LORL

Lindsey O'Rourke
Name (Printed):

For and on behalf of ASSIGNEE:

Date: July 10, 2020

By: 

Michael McDonald

Senior Director, Senior Intellectual
Property Counsel
bluebird bio, Inc.

Witness: 

Bridget McDonald
Printed Name:

ASSIGNMENT

Christian ELLINGER, having a mailing address of Reisingerstr. 3; 80337 Munich, Germany and **Daniel SOMMERMEYER**, having a mailing address of Noerdliche Auffahrtsallee 43, 80638 Munich, Germany (each referred to as "Assignor") has made an invention(s) (the "Invention(s)") set forth in an application for patent entitled **ENGINEERED T CELLS**, and which is a:

☒ PCT application

(a) ☒ bearing Application No. PCT/US2020/031796, and filed on May 7, 2020.

WHEREAS, **Medigene Immunotherapies GmbH**, a corporation of Germany, and having its principal place of business at **Lochhamer Strasse 11, 82152 Planegg-Martinsried, Germany**, its successors, legal representatives and assigns, (the "Assignee"), is desirous of acquiring the entire right, title, and interest in: the Invention(s); the application(s) for patent identified above; the right to file applications for patent of the United States or other countries on the Invention(s); any application(s) for patent of the United States or other countries claiming priority to, and/or the benefit of, these applications; any provisional or other right to recover any and all past, present, and future damages, including royalties, for any and all past, present, and future infringements of these application(s); and any and all patent(s) of the United States or other countries that may be granted therefor or thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, and to the extent that the Assignor has not done so already via a prior agreement with the Assignee or a predecessor in interest of the Assignee, or if the Assignor has already done so via a prior agreement with the Assignee or a predecessor in interest of the Assignee then in confirmation of any obligation to do so in said prior agreement, the Assignor has sold, assigned, transferred, and set over, and by these presents does sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns, the Assignor's entire right, title, and interest in:

(a) the Invention(s);

(b) the application(s) for patent identified above;

(c) the right to file applications for patent of the United States or other countries on the Invention(s), including all rights under the Hague Convention, the Paris Convention for the Protection of Industrial Property, and under the Patent Cooperation Treaty, and all rights of claiming priority in any country of the world;

(d) any application(s) for patent of the United States or other countries claiming the Invention(s);

(e) any application(s) for patent of the United States or other countries claiming priority to, and/or the benefit of, at least one of the application(s) for patent identified above or any application(s) for patent claiming the Invention(s), including any priority application(s), substitute application(s), divisional(s), continuation(s), and continuation(s)-in-part;

(f) any provisional or other right to recover any and all past, present, and future damages, including royalties, for any and all past, present, and future infringements of any application for patent identified in the preceding paragraphs (b)-(e) and of any and all patent(s) granted based thereon in the United States and in all other countries; and

(g) any patent(s) of the United States or other countries that may be granted for or on any application for patent identified in the preceding paragraphs (b)-(e), including any reissue(s), reexamination(s), revival(s), renewal(s) and extension(s) of said patent(s).

The above-granted rights, titles, and interests are to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, as fully and entirely as the same would have been held and enjoyed by the Assignor had this sale and assignment not been made.

The Assignor hereby represents to the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, or if applicable, at such time said prior agreement was executed, the Assignor is a lawful owner of an undivided interest in the entire right, title, and interest in and to the Invention(s), that the Invention(s) are unencumbered, except, if applicable, by obligation to assign in accordance with said prior agreement, and that the Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth herein, and that Assignor will not make or enter into any assignment, sale, agreement or encumbrance which would conflict with these presents.

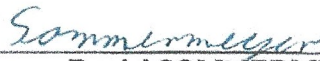
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The Assignor hereby requests the Commissioner of Patents to issue said patents of the United States to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Date: May 11, 2020 By: 
Christian Ellinger

Witness: Sommermeier

DANIEL SOMMERMEYER
Name (Printed):

Date: May 11, 2020 By: 
Daniel SOMMERMEYER

Witness: 

CHRISTIAN ELLINGER
Name (Printed):

For and on behalf of ASSIGNEE:

Date: 11 May 2020

By:

ppa Christian Schmid

Name: Legal Counsel

Title:

Company: Medigene Immunotherapies
GmbH

Dr. Dominik ter Meer
Director IPR
Academic Alliance
Humboldt

Witness:

Dr. Birger Kohlert

Dr. BIRGER KOHLERT

Name (Printed):



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

AUGUST 6, 2019

PTAS

COOLEY LLP
1299 PENNSYLVANIA AVE, NW, SUITE 700
ATTN: PATENT DEPT/LAWRENCE J. TEAGUE
WASHINGTON, DC 20004

505605591

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

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RECORDATION DATE: 08/05/2019

REEL/FRAME: 049957/0831
NUMBER OF PAGES: 5

BRIEF: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

DOCKET NUMBER: BLBD-122/00US 315698-2910

ASSIGNOR:

BOYERINAS, BENJAMIN

DOC DATE: 08/01/2019

ASSIGNEE:

BLUEBIRD BIO, INC.
60 BINNEY STREET
CAMBRIDGE, MASSACHUSETTS 02142

APPLICATION NUMBER: 62845311

FILING DATE: 05/08/2019

PATENT NUMBER:

ISSUE DATE:

TITLE: ENGINEERED T CELLS

ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5652392

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
BENJAMIN BOYERINAS	08/01/2019
RECEIVING PARTY DATA	
Name:	BLUEBIRD BIO, INC.
Street Address:	60 BINNEY STREET
City:	CAMBRIDGE
State/Country:	MASSACHUSETTS
Postal Code:	02142
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	62845311
CORRESPONDENCE DATA	
Fax Number:	(202)842-7899
<i>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.</i>	
Phone:	2064528700
Email:	sclingerman@cooley.com, zPatDCDocketing@cooley.com
Correspondent Name:	COOLEY LLP
Address Line 1:	1299 PENNSYLVANIA AVE, NW, SUITE 700
Address Line 2:	ATTN: PATENT DEPT/LAWRENCE J. TEAGUE
Address Line 4:	WASHINGTON, D.C. 20004
ATTORNEY DOCKET NUMBER:	BLBD-122/00US 315698-2910
NAME OF SUBMITTER:	LAWRENCE J. TEAGUE
SIGNATURE:	/Lawrence J. Teague/
DATE SIGNED:	08/05/2019
Total Attachments: 4	
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ASSIGNMENT

Benjamin Boyerinas, having a mailing address of 170 Coolidge Street, Apt. 1, Brookline, MA 02446 (referred to as "Assignor") has made an invention(s) (the "Invention(s)") set forth in an application for patent entitled **ENGINEERED T CELLS**, and which is a:

- ☒ provisional application
(a) ☒ bearing Application No. **62/845,311**, and filed on **May 8, 2019**.

WHEREAS, **bluebird bio, Inc.**, a corporation duly organized under and pursuant to the laws of Delaware, and having its principal place of business at **60 Binney Street, Cambridge, Massachusetts 02142**, its successors, legal representatives and assigns, (the "Assignee"), is desirous of acquiring the entire right, title, and interest in: the Invention(s); the application(s) for patent identified above; the right to file applications for patent of the United States or other countries on the Invention(s); any application(s) for patent of the United States or other countries claiming priority to, and/or the benefit of, these applications; any provisional or other right to recover any and all past, present, and future damages, including royalties, for any and all past, present, and future infringements of these application(s); and any and all patent(s) of the United States or other countries that may be granted therefor or thereon.

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- (b) the application(s) for patent identified above;
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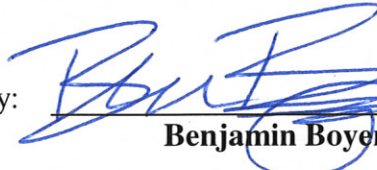
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The Assignor hereby requests the Commissioner of Patents to issue said patents of the United States to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Date:

8/1/2019

By:



Benjamin Boyerinas

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 Massachusetts)
) ss.

County of Middlesex)

On August 1, 2019, before me, Michelle Raddi, Notary
Public, personally appeared Benjamin Boyerinas, 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.

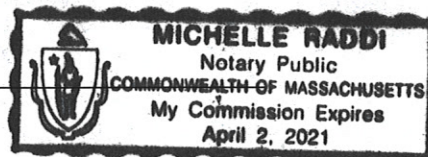
WITNESS my hand and official seal.

Michelle Raddi

Signature of Notary Public

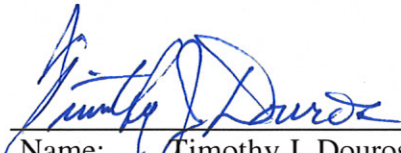
Place Notary Seal Above

My Commission Expires: _____



For and on behalf of ASSIGNEE:

Date: August 1, 2019

By: 
Name: Timothy J. Douros
Title: VP, Deputy General Counsel
Company: bluebird bio, Inc.

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 Massachusetts)
County of Middlesex) ss.

On August 1, 2019, before me, Michelle Raddi, Notary Public, personally appeared Timothy J. Douros, 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.

WITNESS my hand and official seal.



Signature of Notary Public

Place Notary Seal Above

My Commission Expires: _____

