506716757 06/15/2021

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6763575

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date	
BLUEBIRD BIO, INC.	06/02/2021	

RECEIVING PARTY DATA

Name:	HELIXMITH CO., LTD.
Street Address:	21, MAGOKJUNGANG 8-RO 7-GIL, GANGSEO-GU
City:	SEOUL
State/Country:	KOREA, REPUBLIC OF
Postal Code:	07794

PROPERTY NUMBERS Total: 2

Property Type	Number		
Application Number:	62317950		
Application Number:	15755819		

CORRESPONDENCE DATA

Fax Number: (202)842-7899

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: 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/MARK E. ROGEL

Address Line 4: WASHINGTON, D.C. 20004

ATTORNEY DOCKET NUMBER:	344498-2000
NAME OF SUBMITTER:	MARK E. ROGEL
SIGNATURE:	/Mark E. Rogel/
DATE SIGNED:	06/15/2021

Total Attachments: 5

source=BLBD-066 Family Assignment#page1.tif source=BLBD-066 Family Assignment#page2.tif source=BLBD-066 Family Assignment#page3.tif source=BLBD-066 Family Assignment#page4.tif

> PATENT REEL: 056553 FRAME: 0031

506716757

source=BLBD-066 Family Assignment#page5.tif

PATENT REEL: 056553 FRAME: 0032 Attorney Docket No.: BLBD-066

ASSIGNMENT OF PATENT RIGHTS (Company)

bluebird bio, Inc., a corporation having its principal place of business at 60 Binney Street, Cambridge, MA 02142 (herein referred to as "Assignor") jointly owns the entire right, title and interest in any Letters Patent(s) ("said patent(s)") and any Patent application(s) ("said application(s)") set forth in the attached listing, as well as any invention(s) ("said invention(s)") disclosed in said application(s) and said patent(s).

WHEREAS, Helixmith Co., Ltd, a corporation having its principal place of business at 21, Magokjungang 8-ro 7-gil, Gangsco-gu, Scoul, Republic of Korea 07794, its successors, legal representatives and assigns (the "Assignee"), is desirous of acquiring the entire right, title, and interest in and to said invention(s), said application(s), and said patent(s), the right to file applications on said invention(s), the entire right, title and interest in and to any application(s), the right to recover any and all past, present, and future damages, including provisional or other royalties, for any and all past, present, and future infringements of said application(s) and said patent(s), and the entire right, title, and interest in and to any and all Letters Patent or Patents, United States or foreign, to be obtained for said invention(s) and said application(s);

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, 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 entire right, title, and interest in and to said invention(s), and application(s), and said patent(s), the right to file applications on said invention(s), the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said application(s), including divisions, continuations, and continuations-in-part of said application(s), the right to recover any and all past, present, and future damages, including provisional or other royalties, for any and all past, present, and future infringements of said application(s) and said patent(s), the entire right, title and interest in and to any and all Letters Patent or Patents, United States or foreign, to be obtained for said invention(s) and said application(s), the entire right, title and interest in and to any and all reissues and extensions of said patent(s), and all rights under the Hague Convention, the Paris Convention for the Protection of Industrial Property, and under the Patent Cooperation Treaty, the same 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, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignor had this sale and assignment not been made;

AND for the same consideration, the Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignor is the sole and lawful owner of the entire right, title and interest in and to said invention(s), said application(s), and said

PATENT

REEL: 056553 FRAME: 0033

Page 2 of 4

Attorney Docket No.: BLBD-066

patent(s), and that the same are unencumbered, and that the Assignor has good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives, and assigns that the Assignor will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said invention(s), said application(s), said application(s), any reissue or extension of said patent(s), and any United States or foreign Letters Patent or Patents for said invention(s) or said application(s), including interference and derivation proceedings, and any post-grant proceedings (e.g., opposition proceedings, post-grant reviews, Inter partes reviews, supplemental examinations, etc.), is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent or Patents for said invention(s), 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;

AND the Assignor hereby requests the Commissioner of Patents to issue any and all aforementioned patent(s) of the United States to the Assignee, as the Assignee of said invention(s) and the Letters Patent to be issued thereon for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Assignor(s) and Assignee(s) understand that electronic signatures are acceptable and that, by signing electronically, signatories agree to the use of electronic signatures.

PATENT

REEL: 056553 FRAME: 0034

Attorney Docket No.: BLBD-066

Date: 2 June 2021	
19810; Street, Constant	Name: Michael McDonald Title: VP, Chief Intellectual Property Counsel Company: bluebird bio, Inc.
Witness:	
Signature The Ob	Date 5, 3021
Bridget Aconald	
Witness:	
Signature	Date
Printed name	

For and on behalf of ASSIGNOR:

Attorney Docket No.: BLBD-066

For and on behalf of ASSIGNEE:				10 es 35 es 36 es	
Date: June 3, 2021.	By:	<i>=</i>	2/		
		Name: Seungs			
		Title: Chief To			
		Company: He	lixmith C	o., Ltd	
Witness:					
National Control of the Control of t			უ .	4	
<u></u>	sone.	June	, , , , , , , , , , , , , , , , , , ,	20 du	errigine is
Signature		Date			
9					
Seulah pork					
Printed name	**************************************				
Witness:					
α . α .		55) 55 <u> 1</u> 26			
	ete ete	June	3. X	H	
Signature		Date			ennennosco.
Mijeonj kom					
Printed name					
A 4444-Web 21568825					

REEL: 056553 FRAME: 0036

Cooley Docket No.	Title/Mark	Application No.	Application Date	Case Status	Country	Description
BLBD-066/00KR 315698-2425	CHIMERIC ANTIGEN RECEPTOR	10-2015-0122727	8/31/2015	Abandoned	Republic of Korea	National
BLBD-066/00US 315698-2423	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	62/317,950	4/4/2016	Expired	United States of America	Provisional
BLBD-066/02AU 315698-2643	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	2016315704	8/30/2016	Exam Requested	Australia	PCT National Phase
BLBD-066/02CA 315698-2644	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	2996893	8/30/2016	Application Filed	Canada	PCT National Phase
BLBD-066/02CN 315698-2645	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	201680059597.4	8/30/2016	Office Action Issued	China	PCT National Phase
8LBD-066/02EP 315698-2646	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	16842821.7	8/30/2016	Allowed	European Patent Office	PCT National Phase
BLBD-066/02HK 315698-2671	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	18114569.2	8/30/2016	Published	Hong Keng	Re-registration of GB/CN
BLBD-066/02JP 315698-2647	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	2018-530657	8/30/2016	Office Action Issued	Japan	PCT National Phase
BLBD-066/02KR 315698-2648	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	10-2018-7008875	8/30/2016	Published	Republic of Korea	PCT National Phase
BLBD-066/02US 315698-2649	ANTI-SIALYL TN CHIMERIC ANTIGEN RECEPTORS	15/755,819	8/30/2016	Office Action Issued	United States of America	PCT National Phase
BLBD-066/02WO 315698-2447	ANTHSIALYL TN CHIMERIC ANTIGEN RECEPTORS	PCT/US2016/049493	8/30/2016	Expired/PCT Period Over	Patent Cooperation Treaty	National

PATENT REEL: 056553 FRAME: 0037

RECORDED: 06/15/2021