

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6413726

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
IMKE ELISABETH MULDER	02/12/2020
ANNA ETTORRE	03/25/2020
SUAAD AHMED	02/12/2020
PARTHENA FOTIADOU	02/12/2020
SAMANTHA YUILLE	02/12/2020
HELENE SAVIGNAC	05/02/2020
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	4D PHARMA RESEARCH LIMITED
<b>Street Address:</b>	LIFE SCIENCES INNOVATION BUILDING
<b>Internal Address:</b>	CORNHILL ROAD
<b>City:</b>	ABERDEEN
<b>State/Country:</b>	UNITED KINGDOM
<b>Postal Code:</b>	AB25 2ZS
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16713969
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(650)493-6811
<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>	
<b>Phone:</b>	6504939300
<b>Email:</b>	rrsmith@wsgr.com
<b>Correspondent Name:</b>	WILSON SONSINI GOODRICH & ROSATI
<b>Address Line 1:</b>	650 PAGE MILL ROAD
<b>Address Line 4:</b>	PALO ALTO, CALIFORNIA 94304
<b>ATTORNEY DOCKET NUMBER:</b>	56708-728.301
<b>NAME OF SUBMITTER:</b>	MOONKYOONG UM
<b>SIGNATURE:</b>	/Moonkyoung Um/
<b>DATE SIGNED:</b>	11/21/2020

**Total Attachments: 6**

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## PATENT ASSIGNMENT

Docket Number 56708-728.301

WHEREAS, the undersigned:

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| <p>1. Imke Elisabeth MÜLLER<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> <p>3. Suaad AHMED<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> <p>5. Samantha YUILLE<br/>27 Auchmill Terrace, Bucksburn<br/>Aberdeen, GB AB21 9LF</p> | <p>2. Anna ETTORE<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> <p>4. Parthena FOTIADOU<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> <p>6. Heleine SAVIGNAC<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> |
|--|--|

(hereinafter "Inventor(s)"), have invented certain new and useful improvements in

## COMPOSITIONS COMPRISING BACTERIAL STRAINS

- for which a United States patent application is executed on even date herewith;
- for which application serial number 16/713,969 was filed on December 13, 2019 in the United States Patent and Trademark Office;
- for which a PCT application serial number \_\_\_\_\_ was filed on \_\_\_\_\_ in the [ ] Receiving Office of the Patent Cooperation Treaty;
- for which application serial number \_\_\_\_\_ was filed on \_\_\_\_\_ in the \_\_\_\_\_ Patent Office;
- for which an application was filed upon which a United States Patent issued on \_\_\_\_\_ as U.S. Patent No. \_\_\_\_\_; or
- for which a PCT application will be filed on or before [insert 12-month date] in the [ ] Receiving Office of the Patent Cooperation Treaty which will claim priority to [\_\_\_\_\_].

(hereinafter, "Application(s)"). The term "Application(s)" also includes all patent applications that share or claim priority to or from the above application(s).

WHEREAS, 4D Pharma Research Limited, a corporation incorporated under the laws of the country of Great Britain, having a place of business at Life Sciences Innovation Building, Cornhill Road, Aberdeen, GB AB25 2ZS, (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Application(s), and the inventions disclosed therein, and in and to all embodiments of the inventions, heretofore conceived, made or discovered, whether jointly or severally, by said Inventor(s) (hereinafter collectively referred to as "Inventions"), and in and to any and all patents, inventor's certificates and other forms of protection thereon granted in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise (hereinafter "Patent(s)").

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions; (b) in and to said Applications, including the right to claim priority to and from said Application(s); (c) in and to each and every application that is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); (d) in and to said Patent(s) and each and every patent issuing or reissuing from any of the foregoing; (e) in and to each and every reissue, reexamination, renewal or extension of any kind of any of the foregoing; (f) in and to each and every patent and application filed outside the United States and corresponding to any of the foregoing; and (g) in and to all claims for past, present and future infringement of the Patent(s), including all rights to sue for and to receive and recover for Assignee's own use all past, present, and future lost profits, royalties, and damages of whatever nature recoverable from an infringement of the Patent(s).

2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that reasonable expenses incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.

3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns.

4. Said Inventor(s) hereby warrant, represent and covenant that said Inventor(s) have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns.

6. This instrument will be interpreted and construed in accordance with the laws of the country of Great Britain, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to

PATENT ASSIGNMENT

Docket Number 56708-728.301

the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

Date: 12 Feb 2020	<u>Mulder</u> Imke Elisabeth MULDER	Date: _____	_____
			Anna ETORRE
Date: 12 Feb 2020	<u>Saad</u> Suad AHMED	Date: 12/2020 (12 FEBRUARY 2020)	<u>P. Potiadou</u> Parthena POTIADOU
Date: 12 Feb 2020	<u>Savignac</u> Samantha YORLLE	Date: _____	_____
			Helene SAVIGNAC

RECEIVED AND AGREED TO BY ASSIGNEE: 4D Pharma Research Limited

Date: 11 FEBRUARY 2020 Signature: [Signature]  
 Name: ALAN WISSE STEVENSON  
 Title: DIRECTOR, CHIEF SCIENTIFIC OFFICE

WHEREAS, the undersigned:

1. Inke Elisabeth MULDER  
c/o 4D Pharma Research Limited  
Life Sciences Innovation Building, Cornhill Road  
Aberdeen, GB AB25 2ZS
2. Anna ETTORRE  
c/o 4D Pharma Research Limited  
Life Sciences Innovation Building, Cornhill Road,  
Aberdeen, GB AB25 2ZS
3. Saaad AHMED  
c/o 4D Pharma Research Limited  
Life Sciences Innovation Building, Cornhill Road  
Aberdeen, GB AB25 2ZS
4. Parthena FOTIADOU  
c/o 4D Pharma Research Limited  
Life Sciences Innovation Building, Cornhill Road  
Aberdeen, GB AB25 2ZS
5. Samantha YUILLE  
27 Auchmill Terrace, Bucksburn  
Aberdeen, GB AB21 9 LF
6. Helene SAVIGNAC  
c/o 4D Pharma Research Limited  
Life Sciences Innovation Building, Cornhill Road  
Aberdeen, GB AB25 2ZS

(hereinafter "Inventor(s)"), have invented certain new and useful improvements in

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- for which application serial number \_\_\_\_\_ was filed on \_\_\_\_\_ in the \_\_\_\_\_ Patent Office;
- for which an application was filed upon which a United States Patent issued on \_\_\_\_\_, as U.S. Patent No. \_\_\_\_\_; or
- for which a PCT application will be filed on or before [insert 12-month date] in the [ ] Receiving Office of the Patent Cooperation Treaty which will claim priority to [\_\_\_\_\_].

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NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Invention(s); (b) in and to said Applications, including the right to claim priority to and from said Application(s); (c) in and to each and every application that is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); (d) in and to said Patent(s) and each and every patent issuing or reissuing from any of the foregoing; (e) in and to each and every reissue, reexamination, renewal or extension of any kind of any of the foregoing; (f) in and to each and every patent and application filed outside the United States and corresponding to any of the foregoing; and (g) in and to all claims for past, present and future infringement of the Patent(s), including all rights to sue for and to receive and recover for Assignee's own use all past, present, and future lost profits, royalties, and damages of whatever nature recoverable from an infringement of the Patent(s).

2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that reasonable expenses incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.

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PATENT ASSIGNMENT

Docket Number 56708-728.301

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IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

Date: _____	_____	Date: <u>25/03/2020</u>	<u>Anne Ettorre</u>
	Inke Elisabeth MULDER		Anna ETTORRE
Date: _____	_____	Date: _____	_____
	Saad AHMED		Pavlos POTTADOU
Date: _____	_____	Date: _____	_____
	Samantha YULLE		Helene SAVIGNAC

RECEIVED AND AGREED TO BY ASSIGNEE: 4D Pharma Research Limited

Date: 1 April 2020 Signature: [Signature]  
Name: Alexander Stevenson  
Title: Director, Chief Scientific Officer

## PATENT ASSIGNMENT

Docket Number 56708-728.301

WHEREAS, the undersigned:

- |   |  |
|---|--|
| <p>1. Imke Elisabeth MULDER<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> <p>3. Suaad AHMED<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> <p>5. Samantha YUILLE<br/>27 Auchmill Terrace, Bucksburn<br/>Aberdeen, GB AB21 9 LF</p> | <p>2. Anna ETTORRE<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> <p>4. Parthena FOTIADOU<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> <p>6. Helene SAVIGNAC<br/>c/o 4D Pharma Research Limited<br/>Life Sciences Innovation Building, Cornhill Road<br/>Aberdeen, GB AB25 2ZS</p> |
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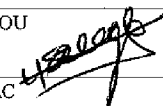
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the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

Date: _____	Imke Elisabeth MULDER	Date: _____	Anna ETTORRE
Date: _____	Snaad AHMED	Date: _____	Parthena FOTIADOU
Date: _____	Samantha YUILLE	Date: 02.05.20	Helene SAVIGNAC 

RECEIVED AND AGREED TO BY ASSIGNEE: 4D Pharma Research Limited

Date: 7 MAY '20      Signature:   
Name: \_\_\_\_\_  
Title: \_\_\_\_\_