

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM663852

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	INTELLECTUAL PROPERTY SECURITY AGREEMENT

CONVEYING PARTY DATA

Name	Formerly	Execution Date	Entity Type
4D PHARMA PLC		07/29/2021	Public Limited Company: GREAT BRITAIN
4D PHARMA RESEARCH LIMITED		07/29/2021	Private Limited Company: SCOTLAND
4D PHARMA CORK LIMITED		07/29/2021	Private Company Limited By Shares: IRELAND
4D PHARMA DELAWARE INC.		07/29/2021	Corporation: DELAWARE

RECEIVING PARTY DATA

Name:	OXFORD FINANCE LUXEMBOURG S.A R.L.
Street Address:	2 route d'Arlon
City:	Strassen
State/Country:	LUXEMBOURG
Postal Code:	8008
Entity Type:	Private Limited Liability Company: LUXEMBOURG

PROPERTY NUMBERS Total: 4

Property Type	Number	Word Mark
Serial Number:	87399251	4D
Serial Number:	87399272	MICRORX
Serial Number:	87399262	MICRODX
Serial Number:	90732209	DEVELOPING SCIENCE, DELIVERING THERAPIES

CORRESPONDENCE DATA

Fax Number: 6173106001

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: 6173106000

Email: munozg@gtlaw.com

Correspondent Name: Greenberg Traurig, LLP

Address Line 1: One International Place

Address Line 2: Suite 2000

Address Line 4: Boston, MASSACHUSETTS 02110

CH \$115.00 87399251

ATTORNEY DOCKET NUMBER:	138179.019500
NAME OF SUBMITTER:	Eugenia a. Prezas
SIGNATURE:	/Eugenia A. Prezas/
DATE SIGNED:	07/30/2021

Total Attachments: 52

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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of July 29, 2021, by and among OXFORD FINANCE LUXEMBOURG S.A R.L., a Luxembourg private limited liability company (société à responsabilité limitée) with registered office at 2 route d'Arlon, 8008 Strassen, Grand Duchy of Luxembourg and registered with the Luxembourg commercial register under number B243395, acting in respect of its Compartment 4 (“**Oxford**”), as collateral agent (in such capacity, “**Collateral Agent**”) and 4D PHARMA PLC, a public limited company incorporated in England and Wales with company number 08840579 and with offices located at 5th Floor, 9 Bond Court, Leeds, LS1 2JZ, United Kingdom (“**Parent**”), 4D PHARMA RESEARCH LIMITED, a private limited company incorporated in Scotland with company number SC33622 and with offices located at Life Science Innovation Building, Cornhill Road, Aberdeen AB25 2ZS (“**Scottish Sub**”), 4D PHARMA CORK LIMITED, private company limited by shares, incorporated and existing under the laws of the Republic of Ireland with registered number 574753, with an address at c/o Quintas Herron House, Blackpool Park, Blackpool, Cork, T23 R50R, Ireland (“**Irish Sub**”) and 4D PHARMA DELAWARE INC., a Delaware corporation with an address at 701 Palomar Airport Rd Suite 300, Carlsbad, CA 92011 (“**US Sub**”) (Parent, Scottish Sub, Irish Sub and US Sub, individually and collectively, jointly and severally, “**Grantor**”).

RECITAL

A. Lenders have agreed to make certain advances of money and to extend certain financial accommodations to Grantor (the “**Loans**”) in the amounts and manner set forth in that certain Loan and Security Agreement by and among the Collateral Agent, Lenders and Grantor dated as of date hereof (as the same may be, and may have been, amended, modified or supplemented from time to time, the “**Loan Agreement**”; capitalized terms used herein are used as defined in the Loan Agreement). In accordance with the terms of the Loan Agreement, Grantor is granting to Collateral Agent, for the ratable benefit of the Lenders, a security interest in certain Copyrights, Trademarks and Patents (as each term is described below) to secure the obligations of Grantor under the Loan Agreement.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure its Obligations under the Loan Agreement, effective as of the date hereof, Grantor hereby grants and pledges to Collateral Agent, for the ratable benefit of the Lenders, a security interest in all of Grantor’s right, title and interest in, to and under its intellectual property (all of which shall collectively be called the “**Intellectual Property Collateral**”), including, without limitation, the following:

(a) Any and all copyright rights, copyright applications, copyright registrations and like protections in each work or authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held, including without limitation those set forth on Exhibit A attached hereto (collectively, the “**Copyrights**”);

(b) Any and all trade secrets, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;

(c) Any and all design rights that may be available to Grantor now or hereafter existing, created, acquired or held;

(d) All patents, patent applications and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the same, including without limitation the patents and patent applications set forth on Exhibit B attached hereto (collectively, the “**Patents**”);

(e) Any trademark and servicemark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the “**Trademarks**”); provided, however that Trademarks shall not include any intent-to-use trademarks;

Notwithstanding the foregoing, or anything to the contrary herein or in the Loan Agreement, the Intellectual Property Collateral does not include any “intent-to-use” trademarks at all times prior to the first use thereof, whether by the actual use thereof in commerce, the recording of a statement of use with the United States Patent and Trademark Office or otherwise.

(f) Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;

(g) All licenses or other rights to use any of the Copyrights, Patents or Trademarks and all license fees and royalties arising from such use to the extent permitted by such license or rights;

(h) All amendments, extensions, renewals and extensions of any of the Copyrights, Trademarks or Patents; and

(i) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

Grantor hereby represents and warrants that the Copyrights set forth on Exhibit A, the Patents set forth on Exhibit B and the Trademarks set forth on Exhibit C include all Copyrights, Patents and Trademarks of Grantor and its Subsidiaries that are either registered, or for which applications for registration or grant, as applicable, are pending in the United States, on the date hereof. Grantor hereby covenants to provide notice of (A) any material change in the composition of the Intellectual Property, and (B) any new the Copyrights, Trademarks or Patents of Grantor or any of its Subsidiaries that are either registered or for which an application for registration or grant is filed, all in accordance with the terms and due dates as further detailed in the Loan Agreement and only to the extent required by the Loan Agreement.

This security interest is granted in conjunction with the security interest granted to Collateral Agent, for the ratable benefit of the Lenders under the Loan Agreement, and shall become effective upon the date hereof. For the avoidance of doubt, the Intellectual Property Collateral related to the Irish Sub shall not include Intellectual Property as defined and contained in the Irish Security Agreement. The rights and remedies of Collateral Agent with respect to the security interest granted hereby are in addition to those set forth in the Loan Agreement and the other Loan Documents, and those which are now or hereafter available to Collateral Agent as a matter of law or equity. Each right, power and remedy of Collateral Agent provided for herein or in the Loan Agreement or any of the Loan Documents, or now or hereafter existing at law or in equity shall be cumulative and concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Collateral Agent of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Collateral Agent, of any or all other rights, powers or remedies.

The Irish Sub hereby irrevocably and unconditionally authorises William Fry to do, at the cost and expense of the Irish Sub, all acts and sign on its behalf all required documents and forms as the Collateral Agent and/or William Fry may consider necessary or desirable to procure compliance with the procedure under section 409(3) or 409(4) of the Companies Act 2014 in respect of the Intellectual Property Security Agreement. For the avoidance of doubt, this clause permits the Collateral Agent and William Fry to insert its or their employees respective e-mail addresses (or such other e-mail address as it or they may nominate) in any form or forms filed under Section 409 of the Companies Act 2014 for the purposes of receiving a certificate of registration of a charge from the Companies Registration Office. In addition, the Irish Sub agrees and acknowledges that it is the Irish Sub's responsibility to comply with the requirements of and the procedures set out in section 409 the Companies Act 2014 and that William

Fry has no liability or responsibility to the Irish Sub for any failure to comply in full or in part with any such requirement or procedure.

[Signature page follows.]

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

Address of Grantor:


5th Floor, 9 Bond Court,
Leeds LS1 2JZ,
United Kingdom

4D PHARMA PLC

By:

Name:

Title:


DUNCAN FEYERHERM
DIRECTOR

Address of Grantor:

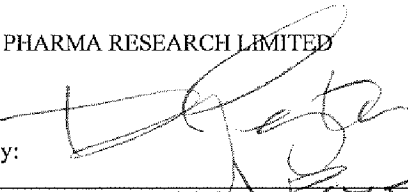
Life Science Innovation Building,
Cornhill Road, Aberdeen, AB25 2ZS,
Scotland

4D PHARMA RESEARCH LIMITED

By:

Name:

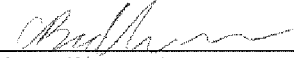
Title:


DUNCAN FEYERHERM
DIRECTOR

SIGNED AND DELIVERED as a deed
for and on behalf of
4D PHARMA CORK LIMITED
by its lawfully appointed attorney

DUNCAN FEYERHERM

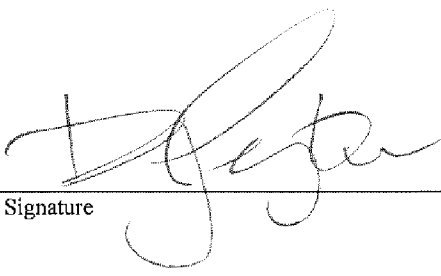
In the presence of:


Witness (Signature)

CHARLIE BADHAM
Print Name

803 Gateway West
Print Address

Manager
Witness Occupation


Signature

[Signature Page to Intellectual Property Security Agreement]

Address of Borrower:

c/o Quintas
Heron House, Blackpool Park,
Blackpool, Cork, T23 R50R
Ireland

Address of Grantor:

701 Palomar Airport Rd Suite 300,
Carlsbad, CA 92011
United States

4D PHARMA DELAWARE INC.

By: 

Name: Glenn Dourado
Title: President and Secretary

COLLATERAL AGENT:

Address of Collateral Agent:

OXFORD FINANCE LUXEMBOURG S.À R.L.,
acting in respect of its Compartment 4
2, route d'Arlon,
L-8008 Strassen,
Grand Duchy of Luxembourg
Fax : +352 26 11 94 78 90
Email : oxfordfinance@cscefml.lu
and
115 South Union Street
Suite 300
Alexandria, VA 22314
Fax: (703) 519-5225
Email: LegalDepartment@oxfordfinance.com

OXFORD FINANCE LUXEMBOURG S.À R.L.,
acting in respect of its Compartment 4, as Collateral
Agent

By: _____

Name:
Title:

[Signature Page to Intellectual Property Security Agreement]

TRADEMARK
REEL: 007371 FRAME: 0540

Address of Borrower:

c/o Quintas
Heron House, Blackpool Park,
Blackpool, Cork, T23 R50R
Ireland

Address of Grantor:

701 Palomar Airport Rd Suite 300,
Carlsbad, CA 92011
United States
Attn:

4D Pharma Delaware Inc.

By:

.....
Name: _____
Title: _____
.....

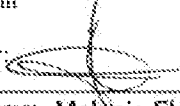
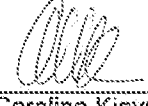
COLLATERAL AGENT:

Address of Collateral Agent:

OXFORD FINANCE LUXEMBOURG S.À R.L.,
acting in respect of its Compartment 4
2, route d'Arion,
L-8008 Strassen,
Grand Duchy of Luxembourg
Fax : +352 26 11 94 78 90
Email : oxfordfinance@esegfm.lu
and
115 South Union Street
Suite 300
Alexandria, VA 22314
Fax: (703) 519-5225
Email: LegalDepartment@oxfordfinance.com

OXFORD FINANCE LUXEMBOURG S.À R.L.,
acting in respect of its Compartment 4, as Collateral
Agent

By:

 
.....
Name: Melanie Florsch Caroline Kinyua
Title: Manager Manager
.....

[Signature Page to Intellectual Property Security Agreement]

EXHIBIT A

Copyrights

None.

EXHIBIT B

Patents

4D PHARMA PLC

Title	Application Number	Application Date	Application Status	Patent Number	Territory	Patent Date
Blautia hydrogenotrophica in the treatment of gastrointestinal disorders, including IBS	0006009	11-May-00	Expired	2808689	France	11-May-00
	2001-260400	11-May-01	Granted, in force.	2001-260400	Australia	11-May-00
	2411563	11-May-01	Granted, in force.	2411563	Canada	11-May-00
	01934089.2	11-May-01	Granted, validated in Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Monaco, the Netherlands, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom.	1280541	Europe	11-May-00
	2001-581840	11-May-01	Granted, in force.	5183848	Japan	11-May-00
	10/275706	11-May-01	Granted, in force.	7749494	USA	11-May-00
	16/572419	21-Nov-16	Pending	N/A	USA	20-Nov-15
	AP/P/2018/010954	6-Mar-17	Pending	N/A	ARIPO	4-Mar-16
	2017226831	6-Mar-17	Granted	2017226831	Australia	4-Mar-16
	2018229410	6-Mar-17	Granted	2018229410	Australia	4-Mar-16
	112018067689-6	6-Mar-17	Pending	N/A	Brazil	4-Mar-16
	3016179	6-Mar-17	Granted	3016179	Canada	4-Mar-16
	201780014234.3	6-Mar-17	Pending	N/A	China	4-Mar-16
NC2018/0010459	6-Mar-17	Pending	N/A	Colombia	4-Mar-16	
201891970	6-Mar-17	Granted	35949	Eurasia	4-Mar-16	
202090835	6-Mar-17	Pending	N/A	Eurasia	4-Mar-16	

Blautix in the treatment of visceral hypersensitivity

17709911.6	6-Mar-17	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3313423	Europe	4-Mar-16
19161713.3	6-Mar-17	Pending	N/A	Europe	4-Mar-16
18106239.8	6-Mar-17	Granted	1246670	Hong Kong	4-Mar-16
42020001390	6-Mar-17	Pending	N/A	Hong Kong	4-Mar-16
201817032601	6-Mar-17	Pending	N/A	India	4-Mar-16
261371	6-Mar-17	Granted	261371	Israel	4-Mar-16
271536	6-Mar-17	Pending	N/A	Israel	4-Mar-16
2018-504969	6-Mar-17	Granted	6441536	Japan	4-Mar-16
2018-217285	6-Mar-17	Pending	N/A	Japan	4-Mar-16
10-2018-7026243	6-Mar-17	Granted	10-2010207	Korea (South)	4-Mar-16
a/2018/010680	6-Mar-17	Granted	373290	Mexico	4-Mar-16
a/2020/005772	6-Mar-17	Pending	N/A	Mexico	4-Mar-16
745678	6-Mar-17	Granted	745678	New Zealand	4-Mar-16
1201800321	6-Mar-17	Pending	N/A	OAPI	4-Mar-16
518392307	6-Mar-17	Pending	N/A	Saudi Arabia	4-Mar-16
11201807195V	6-Mar-17	Pending	N/A	Singapore	4-Mar-16
10201913557T	6-Mar-17	Pending	N/A	Singapore	4-Mar-16
2018/05437	6-Mar-17	Pending	N/A	South Africa	4-Mar-16
106107283	6-Mar-17	Pending	N/A	Taiwan	4-Mar-16
P6001238/2018	6-Mar-17	Pending	N/A	UAE	4-Mar-16
15/916167	6-Mar-17	Granted	10086022	USA	4-Mar-16
15/916202	6-Mar-17	Granted	10086023	USA	4-Mar-16

	16/022484	6-Mar-17	Granted	10583158	USA	4-Mar-16
	16/743212	6-Mar-17	Pending	N/A	USA	4-Mar-16
	P/2018/011248	12-Jul-17	Pending	N/A	ARIPO	13-Jul-16
	2017296126	12-Jul-17	Granted	2017296126	Australia	13-Jul-16
	2019204819	12-Jul-17	Pending	N/A	Australia	13-Jul-16
	112019000338-0	12-Jul-17	Pending	N/A	Brazil	13-Jul-16
	3030600	12-Jul-17	Granted	3030600	Canada	13-Jul-16
	201780040583.2	12-Jul-17	Pending	N/A	China	13-Jul-16
	201990275	12-Jul-17	Pending	36958	Eurasia	13-Jul-16
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	17742523.8	12-Jul-17		3313421	Europe	13-Jul-16
Blautix in the treatment of enterobacteriaceae infection	19160889.2	12-Jul-17	Pending	N/A	Europe	13-Jul-16
	18106307.5	12-Jul-17	Granted	1246681	Hong Kong	13-Jul-16
	19133513.2	12-Jul-17	Pending	N/A	Hong Kong	13-Jul-16
	263933	12-Jul-17	Pending	N/A	Israel	13-Jul-16
	276288	12-Jul-17	Pending	N/A	Israel	13-Jul-16
	2018-505032	12-Jul-17	Granted	6494859	Japan	13-Jul-16
	2019-039442	12-Jul-17	Pending	N/A	Japan	13-Jul-16
	10-2019-7001163	12-Jul-17	Granted	10-2045372	Korea	13-Jul-16
	a/2019/000383	12-Jul-17	Pending	N/A	Mexico	13-Jul-16
	749961	12-Jul-17	Pending	N/A	New Zealand	13-Jul-16
	P/2019/010	12-Jul-17	Pending	N/A	Nigeria	13-Jul-16
	1201800551	12-Jul-17	Granted	19092	OAPI	13-Jul-16

	519400817	12-Jul-17	Pending	N/A	Saudi Arabia	13-Jul-16
	2019/00051	12-Jul-17	Pending	N/A	South Africa	13-Jul-16
	11201900195R	12-Jul-17	Pending	N/A	Singapore	13-Jul-16
	10201913602X	12-Jul-17	Pending	N/A	Singapore	13-Jul-16
	106123392	12-Jul-17	Pending	N/A	Taiwan	13-Jul-16
	P6000056/2019	12-Jul-17	Pending	N/A	UAE	13-Jul-16
	15/916205	12-Jul-17	Granted	10080772	USA	13-Jul-16
	16/022577	12-Jul-17	Granted	10610549	USA	13-Jul-16
	16/795134	12-Jul-17	Granted	10967010	USA	13-Jul-16
	17/184242	12-Jul-17	Pending	N/A	USA	13-Jul-16
	AP/P/2018/011238	12-Jul-17	Pending	N/A	ARIPO	13-Jul-16
	2017294652	12-Jul-17	Granted	2017294652	Australia	13-Jul-16
	2019204819	12-Jul-17	Pending	N/A	Australia	13-Jul-16
	112018075833-7	12-Jul-17	Pending	N/A	Brazil	13-Jul-16
	3028903	12-Jul-17	Granted	3028903	Canada	13-Jul-16
	201780035680.2	12-Jul-17	Pending	N/A	China	13-Jul-16
	201892701	12-Jul-17	Granted	37069	Eurasia	13-Jul-16
	17742524.6	12-Jul-17	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3313422	Europe	13-Jul-16
	19160892.6	12-Jul-17	Pending	N/A	Europe	13-Jul-16
	18106303.9	12-Jul-17	Granted	1246680	Hong Kong	13-Jul-16
	19133512.4	12-Jul-17	Pending	N/A	Hong Kong	13-Jul-16
	263267	12-Jul-17	Granted	263267	Israel	13-Jul-16

Blautix in the treatment of diarrhea and constipation.

272982	12-Jul-17	Pending	N/A		Israel	13-Jul-16
2018-505031	12-Jul-17	Granted	6517429		Japan	13-Jul-16
2019-078753	12-Jul-17	Pending	N/A		Japan	13-Jul-16
10-2018-7037046	12-Jul-17	Granted	10-20060388		Korea	13-Jul-16
a/2018/015761	12-Jul-17	Granted	375041		Mexico	13-Jul-16
a/2020/009455	12-Jul-17	Pending	N/A		Mexico	13-Jul-16
749443	12-Jul-17	Pending	N/A		New Zealand	13-Jul-16
1201800535	12-Jul-17	Granted	19090		OAPI	13-Jul-16
518400702	12-Jul-17	Pending	N/A		Saudi Arabia	13-Jul-16
11201810571R	12-Jul-17	Pending	N/A		Singapore	13-Jul-16
10201913578Q	12-Jul-17	Pending	N/A		Singapore	13-Jul-16
2018/07928	12-Jul-17	Pending	N/A		South Africa	13-Jul-16
106123394	12-Jul-17	Pending	N/A		Taiwan	13-Jul-16
P6001698/2018	12-Jul-17	Pending	N/A		UAE	13-Jul-16
15/915885	12-Jul-17	Granted	10086020		USA	13-Jul-16
16/022207	12-Jul-17	Granted	10610548		USA	13-Jul-16
16/795024	12-Jul-17	Granted	10960031		USA	13-Jul-16
17/184238	12-Jul-17	Pending	N/A		USA	13-Jul-16
P/2019/011425	12-Dec-17	Pending	N/A		ARIPO	12-Dec-16
2017374767	12-Dec-17	Granted	2017374767		Australia	12-Dec-16
2019210661	12-Dec-17	Pending	N/A		Australia	12-Dec-16
112018077266-6	12-Dec-17	Pending	N/A		Brazil	12-Dec-16
3034202	12-Dec-17	Pending	N/A		Canada	12-Dec-16
201780050774.7	12-Dec-17	Pending	N/A		China	12-Dec-16
201990566	12-Dec-17	Pending	37687		Eurasia	12-Dec-16

Blautix in increasing the diversity / inducing stability of the microbiome

17818220.0	12-Dec-17	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, the United Kingdom	3359172	Europe	12-Dec-16
19161691.1	12-Dec-17	Pending	N/A	Europe	12-Dec-16
19100929.5	12-Dec-17	Granted	1258574	Hong Kong	12-Dec-16
42020001391	12-Dec-17	Pending	N/A	Hong Kong	12-Dec-16
263556	12-Dec-17	Pending	N/A	Israel	12-Dec-16
279978	12-Dec-17	Pending	N/A	Israel	12-Dec-16
2018-508717	12-Dec-17	Granted	6517431	Japan	12-Dec-16
2019-078846	12-Dec-17	Pending	N/A	Japan	12-Dec-16
10-2019-7006584	12-Dec-17	Granted	10-2080040	Korea	12-Dec-16
a/2018/016078	12-Dec-17	Granted	378854	Mexico	12-Dec-16
a/2021/000285	12-Dec-17	Pending	N/A	Mexico	12-Dec-16
749872	12-Dec-17	Granted	749872	New Zealand	12-Dec-16
766491	12-Dec-17	Pending	N/A	New Zealand	12-Dec-16
1201900026	12-Dec-17	Granted	19329	OAPI	12-Dec-16
518400726	12-Dec-17	Pending	N/A	Saudi Arabia	12-Dec-16
11201811046Q	12-Dec-17	Pending	N/A	Singapore	12-Dec-16
10201913590P	12-Dec-17	Pending	N/A	Singapore	12-Dec-16
2018/08233	12-Dec-17	Pending	N/A	South Africa	12-Dec-16
106143628	12-Dec-17	Pending	N/A	Taiwan	12-Dec-16
P6000272/2019	12-Dec-17	Pending	N/A	UAE	12-Dec-16
15/915889	12-Dec-17	Granted	10086021	USA	12-Dec-16

	16/022256	12-Dec-17	Granted	10485830	USA	12-Dec-16
	16/14751	12-Dec-17	Granted	10543238	USA	12-Dec-16
	16/560371	12-Dec-17	Granted	10898526	USA	12-Dec-16
	17/039255	12-Dec-17	Pending	N/A	USA	12-Dec-16
IBS Stratification	2019281024	7-Jun-19	Pending	N/A	Australia	7-Jun-19
	3101541	7-Jun-19	Pending	N/A	Canada	7-Jun-19
	201980037633	7-Jun-19	Pending	N/A	China	7-Jun-19
	19728470.6	7-Jun-19	Pending	N/A	Europe	7-Jun-19
	278982	7-Jun-19	Pending	N/A	Israel	7-Jun-19
	2020-566214	7-Jun-19	Pending	N/A	Japan	7-Jun-19
	10-2020-7035112	7-Jun-19	Pending	N/A	Korea	7-Jun-19
	11202012023Q	7-Jun-19	Pending	N/A	Singapore	7-Jun-19
	108120001	10-Jun-19	Pending	N/A	Taiwan	7-Jun-19
	17/112433	7-Jun-19	Pending	N/A	US	7-Jun-19
Annealing in Lyophilisation	20189905.1	N/A	Pending	N/A	Europe	6-Aug-20

4D PHARMA CORK LIMITED

Title	Application Number	Application Date	Application Status	Patent Number	Territory	Patent Date
IBS Diagnostic	PCT/EP2020/059459	2-Apr-20	Pending	N/A	PCT	3-Apr-19
	109111558	6-Apr-20	Pending	N/A	Taiwan	3-Apr-19
	PCT/EP2020/059460	2-Apr-20	Pending	N/A	PCT	3-Apr-19
BAM Diagnostic	109111557	6-Apr-20	Pending	N/A	Taiwan	3-Apr-19
	20197060.5	N/A	Pending	N/A	Europe	18-Sep-20
Use of the vitrome as a diagnostic biomarker for IBS						

Title	Application Number	Application Date	Application Status	Patent Number	Territory	Patent Date	
<i>Bacteroides thetaiotaomicron</i> in the treatment of inflammatory disease, including Crohn's Disease	2002-343063	20-Nov-02	Granted, in force.	2002-343063	Australia	21-Nov-01	
	2468082	20-Nov-02	Granted, in force.	2468082	Canada	21-Nov-01	
	02779724.0	20-Nov-02	Granted, validated in Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and Switzerland; United Kingdom.	1448995	Europe	21-Nov-01	
	2003-547968	20-Nov-02	Granted, in force.	5362940	Japan	21-Nov-01	
	10/285224	20-Nov-02	Granted, in force.	7998474	USA	21-Nov-01	
	2841576	13-Jul-12	Pending	N/A	Canada	14-Jul-11	
	201280044674.0	13-Jul-12	Granted	104080903	China	14-Jul-11	
	201810577085.8	13-Jul-12	Pending	N/A	China	14-Jul-11	
	Porcine lactic acid bacterial strains and the use thereof in intestinal disorders.	12737592.1	13-Jul-12	Granted, validated in Albania, Austria, Belgium, Bosnia & Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	2732023	Europe	14-Jul-11
		2014105461	13-Jul-12	Granted	2677890	Russia	14-Jul-11
2019100532		13-Jul-12	Pending	N/A	Russia	14-Jul-11	
14/232475		13-Jul-12	Granted	9539293	USA	14-Jul-11	

<i>Roseburia hominis</i> in the treatment of inflammatory disease, including Crohn's Disease including ulcerative colitis	15/359144	13-Jul-12	Granted	10183046	USA	14-Jul-11
	16/206250	13-Jul-12	granted	11013773	USA	14-Jul-11
	17/232871	13-Jul-12	Pending	N/A	USA	14-Jul-11
	2012-320255	8-Oct-12	Granted	2012-320255	Australia	7-Oct-11
	2017-202497	8-Oct-12	Granted	2017-202497	Australia	7-Oct-11
	112014008044.5	8-Oct-12	Pending	N/A	Brazil	7-Oct-11
	2850000	8-Oct-12	Granted	2850000	Canada	7-Oct-11
	2012-80054515.9	8-Oct-12	Granted	103930117	China	7-Oct-11
	201810653382.6	8-Oct-12	Pending	N/A	China	7-Oct-11
	12775538.7	8-Oct-12	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	2763685	Europe	7-Oct-11

Flagellin proteins obtained from organisms of the Roseburia genus	16166001.4	8-Oct-12	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3097919	Europe	7-Oct-11
	3582/DELNP/2014	8-Oct-12	Pending	N/A	India	7-Oct-11
	15100681.7	8-Oct-12	Granted	1200116	Hong Kong	7-Oct-11
	17103711.3	8-Oct-12	Granted	1230077	Hong Kong	7-Oct-11
	2014-533994	8-Oct-12	Granted	6290086	Japan	7-Oct-11
	2018-020250	8-Oct-12	Pending	6745827	Japan	7-Oct-11
	a/2014/004220	8-Oct-12	Granted	350325	Mexico	7-Oct-11
	a/2017/011243	8-Oct-12	Pending	N/A	Mexico	7-Oct-11
	2014118464	8-Oct-12	Granted	2645466	Russia	7-Oct-11
	2018102079	8-Oct-12	Pending	N/A	Russia	7-Oct-11
	14/349907	8-Oct-12	Granted	9314489	USA	7-Oct-11
	15/070605	8-Oct-12	Granted	9937211	USA	7-Oct-11
	16/906988	8-Oct-12	Pending	N/A	USA	7-Oct-11
	2014-202021	10-Apr-14	Granted	2014-202021	Australia	10-Apr-13
	2019203688	10-Apr-14	Granted	2019203688	Australia	10-Apr-13
2848725	10-Apr-14	Pending	N/A	Canada	10-Apr-13	
201480033216.6	10-Apr-14	Pending	N/A	China	10-Apr-13	

Pirin-like protein derived from BT2013	14717823.0	10-Apr-14	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3010523	Europe	10-Apr-13
	17204215.2	10-Apr-14	Pending	N/A	Europe	10-Apr-13
	16111589.6	10-Apr-14	Granted	1223289	Hong Kong	10-Apr-13
	18106565.2	10-Apr-14	Pending	N/A	Hong Kong	10-Apr-13
	2016-507061	10-Apr-14	Granted	6641262	Japan	10-Apr-13
	2019-238189	10-Apr-14	Pending	N/A	Japan	10-Apr-13
	2015/014281	10-Apr-14	Granted	363015	Mexico	10-Apr-13
	2015147864	10-Apr-14	Granted	2682651	Russia	10-Apr-13
	2014/04161	10-Apr-14	Granted	N/A	Turkey	10-Apr-13
	14/249710	10-Apr-14	Granted	9796762	USA	10-Apr-13
	15/704245	10-Apr-14	Pending	N/A	USA	10-Apr-13
	16/897064	10-Apr-14	Pending	N/A	USA	10-Apr-13
	2015-370665	22-Dec-15	Pending	N/A	Australia	23-Dec-14
	2970234	22-Dec-15	Pending	N/A	Canada	23-Dec-14
2015800768343	22-Dec-15	Pending	N/A	China	23-Dec-14	
201791426	22-Dec-15	Granted	201791426	Eurasia	23-Dec-14	

	15819853.1	22-Dec-15	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3193901	Europe	23-Dec-14
	18165424.5	22-Dec-15	Pending	N/A	Europe	23-Dec-14
	17112777.5	22-Dec-15	Granted	1239513	Hong Kong	23-Dec-14
	19122250.4	22-Dec-15	Pending	N/A	Hong Kong	23-Dec-14
	252812	22-Dec-15	Granted	252812	Israel	23-Dec-14
	2017-531232	22-Dec-15	Granted	6427278	Japan	23-Dec-14
	2018-201967	22-Dec-15	Pending	N/A	Japan	23-Dec-14
	10-2017-7019419	22-Dec-15	Pending	N/A	Korea	23-Dec-14
	11201704814S	22-Dec-15	Pending	N/A	Singapore	23-Dec-14
	10202105996W	22-Dec-15	Pending	N/A	Singapore	23-Dec-14
	2017/03894	22-Dec-15	Granted	2017/03894	South Africa	23-Dec-14
	15/631952	24-Dec-15	Granted	10456444	US	23-Dec-14
	16/560381	24-Dec-15	Granted	10973872	US	23-Dec-14
	17/193348	24-Dec-15	Pending	N/A	US	23-Dec-14
	P/2017/009971	23-Dec-15	Pending	N/A	ARIPO	24-Dec-14
	2015-370664	22-Dec-15	Granted	2015-370664	Australia	24-Dec-14
	2018-205072	22-Dec-15	Granted	2018-205072	Australia	24-Dec-14
	112017012299-5	22-Dec-15	Pending	N/A	Brazil	24-Dec-14
	2971108	22-Dec-15	Granted	2971108	Canada	24-Dec-14
	2017-01464	22-Dec-15	Pending	N/A	Chile	24-Dec-14
	2015800768409	22-Dec-15	Pending	N/A	China	24-Dec-14
	NC2017/0005626	22-Dec-15	Granted	35086	Colombia	24-Dec-14

BT 2013 and its use in treating GI conditions

201791428	22-Dec-15	Granted	201791428	Eurasia	24-Dec-14
202090948	22-Dec-15	Pending	N/A	Eurasia	24-Dec-14
15817513.3	22-Dec-15	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3065748	Europe	23-Dec-14
17202898.7	22-Dec-15	Pending	N/A	Europe	23-Dec-14
17101683.1	22-Dec-15	Granted	1227756	Hong Kong	23-Dec-14
19121073.1	22-Dec-15	Pending	N/A	Hong Kong	23-Dec-14
20177022098	22-Dec-15	Pending	N/A	India	23-Dec-14
252854	22-Dec-15	Granted	252854	Israel	23-Dec-14
258184	22-Dec-15	Granted	258184	Israel	23-Dec-14
2017-531150	22-Dec-15	Granted	6271093	Japan	23-Dec-14
2017-249971	22-Dec-15	Granted	6757309	Japan	23-Dec-14
10-2017-7019418	22-Dec-15	Granted	10-1942955	Korea (South)	23-Dec-14
10-2019-7002101	22-Dec-15	Pending	N/A	Korea (South)	23-Dec-14
a/2017/008247	22-Dec-15	Granted	362695	Mexico	23-Dec-14
a/2019/001390	22-Dec-15	Pending	N/A	Mexico	23-Dec-14
F/P/2017/388	22-Dec-15	Granted	2017/388	Nigeria	23-Dec-14
732667	22-Dec-15	Pending	N/A	New Zealand	23-Dec-14
764713	22-Dec-15	Pending	N/A	New Zealand	23-Dec-14
1201700235	22-Dec-15	Granted	18349	OAPI	23-Dec-14
517381819	22-Dec-15	Pending	N/A	Saudi Arabia	23-Dec-14
11201704811Y	22-Dec-15	Pending	N/A	Singapore	23-Dec-14
10201913609P	22-Dec-15	Pending	N/A	Singapore	23-Dec-14

2017/03864	22-Dec-15	Pending	N/A	South Africa	23-Dec-14
105118853	15-Jun-16	Granted	I621708	Taiwan	15-Jun-16
107108178	15-Jun-16	Pending	N/A	Taiwan	15-Jun-16
P6000756/2017	22-Dec-15	Pending	N/A	UAE	23-Dec-14
15/631945	22-Dec-15	Granted	10226489	US	23-Dec-14
16/247834	22-Dec-15	Pending	N/A	US	23-Dec-14
2016278070	15-Jun-16	Pending	N/A	Australia	15-Jun-15
2988693	15-Jun-16	Pending	N/A	Canada	15-Jun-15
201680040091.9	15-Jun-16	Pending	N/A	China	15-Jun-15
16731642.1	15-Jun-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3307288	Europe	15-Jun-15
19187872.7	15-Jun-16	Pending	N/A	Europe	15-Jun-15
18106290.4	15-Jun-16	Granted	1246675	Hong Kong	15-Jun-15
42020019887.7	15-Jun-16	Pending	N/A	Hong Kong	15-Jun-15
256009	15-Jun-16	Pending	N/A	Israel	15-Jun-15
2017-501379	15-Jun-16	Granted	6426264	Japan	15-Jun-15
2018-200086	15-Jun-16	Pending	N/A	Japan	15-Jun-15
10-2018-7000115	15-Jun-16	Pending	N/A	Korea (South)	15-Jun-15
1201700489	15-Jun-16	Abandoned	N/A	OAPI	15-Jun-15

Roseburia including *R. hominis* in the treatment of autoimmune / inflammatory diseases and cancer. Data indicative of efficacy of MPX001 in neutrophilic asthma, allergic asthma, rheumatoid arthritis and multiple sclerosis included.

	10201912326Q	15-Jun-16	Pending		N/A		Singapore	15-Jun-15	
	2017/07970	15-Jun-16	Granted		N/A		South Africa	15-Jun-15	
	201716075	15-Jun-16	Pending		N/A		Taiwan	15-Jun-15	
	15/842635	15-Jun-16	Granted		10500237		US	15-Jun-15	
	16/597673	15-Jun-16	Pending		N/A		US	15-Jun-15	
	2016278066	15-Jun-16	Pending		N/A		Australia	15-Jun-15	
	2988657	15-Jun-16	Pending		N/A		Canada	15-Jun-15	
	201680041407.6	15-Jun-16	Granted		201680041407.6		China	15-Jun-15	
	202011077125.6	15-Jun-16	Pending		N/A		China	15-Jun-15	
				Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom		N/A		Europe	15-Jun-15
	16731639.7	15-Jun-16							
	19187822.2	15-Jun-16	Pending		N/A		Europe	15-Jun-15	
	18100308.7	15-Jun-16	Granted		1240831		Hong Kong	15-Jun-15	
	42020013563	15-Jun-16	Pending		N/A		Hong Kong	15-Jun-15	
	255794	15-Jun-16	Granted		255794		Israel	15-Jun-15	
	276798	15-Jun-16	Pending		N/A		Israel	15-Jun-15	
	2017-501360	15-Jun-16	Granted		6375051		Japan	15-Jun-15	
	2018-136622	15-Jun-16	Pending		N/A		Japan	15-Jun-15	
	10-2018-7000113	15-Jun-16	Pending		N/A		Korea (South)	15-Jun-15	

Bacteroides including MRX002 and *B. thetaiotaomicron* in the treatment of inflammatory diseases and cancer. Data indicative of efficacy of MRX002 in neutrophilic asthma, allergic asthma, rheumatoid arthritis and multiple sclerosis included.

	1201700486	15-Jun-16	Granted	18687	OAPI	15-Jun-15
	2017/07854	15-Jun-16	Pending	N/A	South Africa	15-Jun-15
	10201912325W	15-Jun-16	Pending	N/A	Singapore	15-Jun-15
	201716074	15-Jun-16	Pending	N/A	Taiwan	15-Jun-15
	15/592178	15-Jun-16	Granted	10058574	US	15-Jun-15
	16/040356	15-Jun-16	Granted	10391130	US	15-Jun-15
	16/505098	15-Jun-16	Granted	10780134	US	15-Jun-15
	16/845867	15-Jun-16	granted	11040075	US	15-Jun-15
	17/318015	15-Jun-16	Pending	N/A	US	15-Jun-15
	P/2018/010434	15-Jun-16	Pending	N/A	ARIPO	15-Jun-15
MRX004 and biotypes thereof in the treatment of autoimmune / inflammatory diseases and cancer. Data indicative of efficacy of MRX004 in neutrophilic asthma, allergic asthma, rheumatoid arthritis, multiple sclerosis and cancer included.	2016278072	15-Jun-16	Granted	2016278072	Australia	15-Jun-15
	2020244599	15-Jun-16	Pending	N/A	Australia	15-Jun-15
	112017026564-8	15-Jun-16	Pending	N/A	Brazil	15-Jun-15
	2988695	15-Jun-16	Pending	N/A	Canada	15-Jun-15
	201680033991.0	15-Jun-16	Pending	N/A	China	15-Jun-15
	201890051	15-Jun-16	Pending	N/A	Eurasia	15-Jun-15
	201990051	15-Jun-16	Pending	N/A	Eurasia	15-Jun-15
	202191149	15-Jun-16	Pending	N/A	Eurasia	15-Jun-15

	16731268.5	15-Jun-16	<p>Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom</p>	3206700	Europe	15-Jun-15
18165143.1	15-Jun-16	<p>Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom</p>	3360559	Europe	15-Jun-15	
19196804.9	15-Jun-16	Pending	N/A	Europe	15-Jun-15	
18100334.5	15-Jun-16	Granted	1240833	Hong Kong	15-Jun-15	
19100928.6	15-Jun-16	Granted	1258573	Hong Kong	15-Jun-15	
42020017850.7	15-Jun-16	Pending	N/A	Hong Kong	15-Jun-15	
201717045181	15-Jun-16	Pending	N/A	India	15-Jun-15	
255662	15-Jun-16	Pending	N/A	Israel	15-Jun-15	

	2017-501407	15-Jun-16	Granted	6439037	Japan	15-Jun-15
	2018-16891	15-Jun-16	Granted	6527280	Japan	15-Jun-15
	2019-489328	15-Jun-16	Pending	N/A	Japan	15-Jun-15
	10-2017-7035051	15-Jun-16	Pending	N/A	Korea (South)	15-Jun-15
	a/2017/016398	15-Jun-16	Granted	378686	Mexico	15-Jun-15
	a/2021/000077	15-Jun-16	Pending	N/A	Mexico	15-Jun-15
	737752	15-Jun-16	Pending	N/A	New Zealand	15-Jun-15
	F/P/2017/556	15-Jun-16	Granted	F/P/2017/556	Nigeria	15-Jun-15
	1201700487	15-Jun-16	Granted	18777	OAPI	15-Jun-15
	517390513	15-Jun-16	Pending	N/A	Saudi Arabia	15-Jun-15
	10201912319S	15-Jun-16	Pending	N/A	Singapore	15-Jun-15
	10201912320T	15-Jun-16	Pending	N/A	Singapore	15-Jun-15
	2017/07745	15-Jun-16	Granted	2017/07745	South Africa	15-Jun-15
	201709917	15-Jun-16	Pending	N/A	Taiwan	15-Jun-15
	P6001645/2017	15-Jun-16	Pending	N/A	UAE	15-Jun-15
	15/700007	15-Jun-16	Granted	10744167	US	15-Jun-15
	16/219667	15-Jun-16	Granted	10736926	US	15-Jun-15
	16/248857	15-Jun-16	Granted	10864236	US	15-Jun-15
	17/006356	15-Jun-16	Pending	N/A	US	15-Jun-15
<p><i>Parabacteroides</i> including <i>P. distasonis</i> in the treatment of autoimmune / inflammatory diseases and cancer. Data indicative of efficacy of MRX005 in neurophilic asthma, allergic asthma, rheumatoid arthritis, multiple sclerosis and uveitis included.</p>	2016278069	15-Jun-16	Granted	2016278069	Australia	15-Jun-15
	2020241605	15-Jun-16	Pending	N/A	Australia	15-Jun-15
	2988686	15-Jun-16	Pending	N/A	Canada	15-Jun-15
	201680040970.1	15-Jun-16	Granted	ZL201680040970.1	China	15-Jun-15
	202011087743.9	15-Jun-16	Pending	N/A	China	15-Jun-15

	16731641.3	15-Jun-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3204025	Europe	15-Jun-15
	18167277.5	15-Jun-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3369425	Europe	15-Jun-15

19170925.2	15-Jun-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3549592	Europe	15-Jun-15
21153479.7	15-Jun-16	Pending	N/A	Europe	15-Jun-15
18100357.7	15-Jun-16	Granted	1240835	Hong Kong	15-Jun-15
19119924.9	15-Jun-16	Pending	N/A	Hong Kong	15-Jun-15
42020004439	15-Jun-16	Granted	40014436	Hong Kong	15-Jun-15
255783	15-Jun-16	Pending	N/A	Israel	15-Jun-15
2017-501359	15-Jun-16	Granted	6389950	Japan	15-Jun-15
2018-153877	15-Jun-16	Pending	N/A	Japan	15-Jun-15
10-2018-7000111	15-Jun-16	Pending	N/A	Korea (South)	15-Jun-15
J/004684(187)	15-Jun-16	Pending	N/A	Macao	15-Jun-15
1201700485	15-Jun-16	Granted	18660	OAPI	15-Jun-15
10201912322P	15-Jun-16	Pending	N/A	Singapore	15-Jun-15
10201912321R	15-Jun-16	Pending	N/A	Singapore	15-Jun-15
2017/07774	15-Jun-16	Granted	2017/07774	South Africa	15-Jun-15
201709918	15-Jun-16	Pending	N/A	Taiwan	15-Jun-15
15/679857	15-Jun-16	Granted	10493112	US	15-Jun-15
16/100349	15-Jun-16	Pending	N/A	US	15-Jun-15
16/598699	15-Jun-16	Pending	N/A	US	15-Jun-15

2016278067	15-Jun-16	Pending	N/A	Australia	15-Jun-15
2988661	15-Jun-16	Pending	N/A	Canada	15-Jun-15
201680040548,6	15-Jun-16	Pending	N/A	China	15-Jun-15
16731640.5	15-Jun-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3240554	Europe	15-Jun-15
19189140.7	15-Jun-16	Pending	N/A	Europe	15-Jun-15
18103631.9	15-Jun-16	Granted	1244202	Hong Kong	15-Jun-15
42020015460	15-Jun-16	Pending	N/A	Hong Kong	15-Jun-15
255757	15-Jun-16	Pending	N/A	Israel	15-Jun-15
2017-501394	15-Jun-16	Granted	6426265	Japan	15-Jun-15
2018-200128	15-Jun-16	Pending	N/A	Japan	15-Jun-15
10-2018-7000112	15-Jun-16	Pending	N/A	Korea (South)	15-Jun-15
1201700488	15-Jun-16	Granted	18810	OAPI	15-Jun-15
10201912324X	15-Jun-16	Pending	N/A	Singapore	15-Jun-15
2017/07772	15-Jun-16	Pending	N/A	South Africa	15-Jun-15
201710495	15-Jun-16	Pending	N/A	Taiwan	15-Jun-15
15/673270	15-Jun-16	Granted	10322151	US	15-Jun-15
16/265238	15-Jun-16	Pending	N/A	US	15-Jun-15

Blautia including *B. stercoris*, *B. wexlerae*, and *B. hydrognotrophica* in the treatment of autoimmune / inflammatory diseases. Data indicative of efficacy of MRX006 and MRX008 in neutrophilic asthma, allergic asthma, rheumatoid arthritis, multiple sclerosis and uveitis is included.

AP/P/2018/010688	20-Nov-16	Pending	N/A	ARIPO	20-Nov-15
2016357554	20-Nov-16	Granted	2016357554	Australia	20-Nov-15
2019204809	20-Nov-16	Pending	N/A	Australia	20-Nov-15
2021200769	20-Nov-16	Pending	N/A	Australia	20-Nov-15
112018010089-7	20-Nov-16	Pending	N/A	Brazil	20-Nov-15
3005781	20-Nov-16	Granted	3005781	Canada	20-Nov-15
201680066772.2	20-Nov-16	Granted	201680066772.2	China	20-Nov-15
202011080012.1	20-Nov-16	Pending	N/A	China	20-Nov-15
201891200	20-Nov-16	Granted	34677	Eurasia	20-Nov-15
202090107	20-Nov-16	Pending	N/A	Eurasia	20-Nov-15
16801286.2	20-Nov-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Morocco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3209310	Europe	20-Nov-15
18153975.0	20-Nov-16	Pending	N/A	Europe	20-Nov-15
18113937.9	20-Nov-16	Granted	1254843	Hong Kong	20-Nov-15
18113303.5	20-Nov-16	Pending	N/A	Hong Kong	20-Nov-15
19101150.3	20-Nov-16	Pending	N/A	Hong Kong	20-Nov-15
N/A	20-Nov-16	Pending	N/A	Hong Kong	20-Nov-15
201817020256	20-Nov-16	Pending	N/A	India	20-Nov-15
259138	20-Nov-16	Granted	259138	Israel	20-Nov-15
272343	20-Nov-16	Pending	N/A	Israel	20-Nov-15
2017-501389	20-Nov-16	Granted	6312919	Japan	20-Nov-15

Enterococcus including *E. gallinarum* in the treatment of cancer. Data indicative of efficacy of MRX518 in cancer is included.

2018-052921	20-Nov-16	Pending	N/A	Japan	20-Nov-15
10-2018-7013236	20-Nov-16	Granted	10-1914245	Korea (South)	20-Nov-15
10-2018-7031177	20-Nov-16	Pending	N/A	Korea (South)	20-Nov-15
J/004683(735)	20-Nov-16	Pending	N/A	Macao	20-Nov-15
a/2018/006240	20-Nov-16	Pending	N/A	Mexico	20-Nov-15
a/2021/000710	20-Nov-16	Pending	N/A	Mexico	20-Nov-15
742787	20-Nov-16	Granted	742787	New Zealand	20-Nov-15
761322	20-Nov-16	Pending	N/A	New Zealand	20-Nov-15
F/P/2018/153	20-Nov-16	Granted	F/P/2018/153	Nigeria	20-Nov-15
1201800177	20-Nov-16	Granted	18-794	OAPI	20-Nov-15
518391503	20-Nov-16	Pending	N/A	Saudi Arabia	20-Nov-15
10201904294S	20-Nov-16	Pending	N/A	Singapore	20-Nov-15
2018/02866	20-Nov-16	Granted	2018/02866	South Africa	20-Nov-15
105138159	20-Nov-16	Pending	N/A	Taiwan	20-Nov-15
P6000685/2018	20-Nov-16	Pending	N/A	UAE	20-Nov-15
1809695.8	20-Nov-16	Granted	2561748	UK	20-Nov-15
15/357850	20-Nov-16	Granted	9839655	USA	20-Nov-15
15/803721	20-Nov-16	Granted	10357520	USA	20-Nov-15
15/803723	20-Nov-16	Granted	9974815	USA	20-Nov-15
16/251462	20-Nov-16	Granted	10610550	USA	20-Nov-15
16/703980	20-Nov-16	Pending	N/A	USA	20-Nov-15
2016357553	21-Nov-16	Pending	N/A	Australia	20-Nov-15
3005518	21-Nov-16	Pending	N/A	Canada	20-Nov-15
201680066726.2	21-Nov-16	Pending	N/A	China	20-Nov-15
16801036.1	21-Nov-16	Pending	N/A	Europe	20-Nov-15
19119984.3	21-Nov-16	Pending	N/A	Hong Kong	20-Nov-15
258967	21-Nov-16	Pending	N/A	Israel	20-Nov-15
2017-501387	21-Nov-16	Pending	N/A	Japan	20-Nov-15
10-2018-7012468	21-Nov-16	Pending	N/A	Korea (South)	20-Nov-15
F/P/2018/152	21-Nov-16	Granted	FP/P/2018/152	Nigeria	20-Nov-15
1201800175	21-Nov-16	Granted	18-792	OAPI	20-Nov-15
11201804118V	21-Nov-16	Pending	N/A	Singapore	20-Nov-15
105138158	21-Nov-16	Pending	N/A	Taiwan	20-Nov-15
16801036.1	21-Nov-16	Pending	N/A	Europe	20-Nov-15

Enterococcus faecium in the treatment of autoimmune / inflammatory diseases. Data indicative of efficacy of MRX010 in urethritis included.

	15/357936	21-Nov-16	Granted	10046015	USA	20-Nov-15
	16/031024	21-Nov-16	Granted	10471108	USA	20-Nov-15
	16/572419	21-Nov-16	Pending	N/A	USA	20-Nov-15
	2016358971	23-Nov-16	Pending	N/A	Australia	23-Nov-15
	3005513	23-Nov-16	Pending	N/A	Canada	23-Nov-15
	201680066791.5	23-Nov-16	Pending	N/A	China	23-Nov-15
	16804857.7	23-Nov-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3209381	Europe	23-Nov-15
	18202101.4	23-Nov-16	Pending	N/A	Europe	23-Nov-15
	18113936	23-Nov-16	Pending	N/A	Hong Kong	23-Nov-15
	18114589.8	23-Nov-16	Pending	N/A	Hong Kong	23-Nov-15
	19127983.5	23-Nov-16	Pending	N/A	Hong Kong	23-Nov-15
	259099	23-Nov-16	Pending	N/A	Israel	23-Nov-15
	2017-501390	23-Nov-16	Granted	6377835	Japan	23-Nov-15
	2018-139488	23-Nov-16	Granted	6701276	Japan	23-Nov-15
	2020-081459	23-Nov-16	Pending	N/A	Japan	23-Nov-15
	10-2018-7012637	23-Nov-16	Pending	N/A	Korea (South)	23-Nov-15
	F/P/2018/154	23-Nov-16	Granted	F/P/2018/154	Nigeria	23-Nov-15
	1201800181	23-Nov-16	Granted	18797	OAPI	23-Nov-15
	11201804162W	23-Nov-16	Pending	N/A	Singapore	23-Nov-15
	10201913755W	23-Nov-16	Pending	N/A	Singapore	23-Nov-15

Erysipelatoclostridium including *E. ramosum* in the treatment of autoimmune / inflammatory diseases. Data indicative of efficacy of MRX027 in uveitis included.

	2018/02/95	23-Nov-16	Granted	2018/02/95	South Africa	23-Nov-15
	105138526	23-Nov-16	Pending	N/A	Taiwan	23-Nov-15
	1809697.4	23-Nov-16	Granted	2561749	UK	23-Nov-15
	2019501.2	23-Nov-16	Pending	N/A	UK	23-Nov-15
	2019509.5	23-Nov-16	Pending	N/A	UK	23-Nov-15
	2019507.9	23-Nov-16	Pending	N/A	UK	23-Nov-15
	2019495.7	23-Nov-16	Pending	N/A	UK	23-Nov-15
	15/359988	23-Nov-16	Granted	9987311	USA	23-Nov-15
	15/969543	23-Nov-16	Granted	10744166	USA	23-Nov-15
	16/908919	23-Nov-16	Pending	N/A	USA	23-Nov-15
	2016358972	23-Nov-16	Granted	2016358972	Australia	23-Nov-15
	2018226438	23-Nov-16	Pending	N/A	Australia	23-Nov-15
	3005794	23-Nov-16	Pending	N/A	Canada	23-Nov-15
	201680065752.3	23-Nov-16	Granted	201680065752.3	China	23-Nov-15
	202011087742.4.	23-Nov-16	Pending	N/A	China	23-Nov-15
	201891202	23-Nov-16	Granted	34911	Eurasia	23-Nov-15
<i>Enbacterium</i> including <i>E. contortum</i> in the treatment of autoimmune / inflammatory diseases. Data indicative of efficacy of MRX050 in uveitis included.	16804858.5	23-Nov-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3209309	Europe	23-Nov-15

18159098.5	23-Nov-16	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom	3360558	Europe	23-Nov-15
19204141.6	23-Nov-16	Pending	N/A	Europe	23-Nov-15
18111167.4	23-Nov-16	Pending	N/A	Hong Kong	23-Nov-15
18112422.3	23-Nov-16	Pending	N/A	Hong Kong	23-Nov-15
18159098.5	23-Nov-16	Pending	N/A	Hong Kong	23-Nov-15
19100930.2	23-Nov-16	Granted	1258575	Hong Kong	23-Nov-15
19204141.6	23-Nov-16	Pending	N/A	Hong Kong	23-Nov-15
42020019889	23-Nov-16	Pending	N/A	Hong Kong	23-Nov-15
259024	23-Nov-16	Granted	259024	Israel	23-Nov-15
269508	23-Nov-16	Pending	N/A	Israel	23-Nov-15
2017-501352	23-Nov-16	Pending	N/A	Japan	23-Nov-15
2018-160285	23-Nov-16	Pending	N/A	Japan	23-Nov-15
10-2018-7012986	23-Nov-16	Granted	10-1914248	Korea (South)	23-Nov-15
10-2018-7031183	23-Nov-16	Pending	N/A	Korea (South)	23-Nov-15
F/P/2018/155	23-Nov-16	Granted	FP/P/2018/155	Nigeria	23-Nov-15
1201800179	23-Nov-16	Granted	18795	OAPI	23-Nov-15
11201804211Y	23-Nov-16	Granted	11201804211Y	Singapore	23-Nov-15
10201904327S	23-Nov-16	Pending	N/A	Singapore	23-Nov-15
105138527	23-Nov-16	Pending	N/A	Taiwan	23-Nov-15
1809729.5	23-Nov-16	Pending	N/A	UK	23-Nov-15
15/359,972	23-Nov-16	Granted	10391128	USA	23-Nov-15
16/240644	23-Nov-16	Pending	N/A	USA	23-Nov-15

Blautia in the treatment of CNS disorders. Data included demonstrating the efficacy of MRX006, MRX008 and Blautix in autism and depression mouse models.	16/504980	23-Nov-16	Pending	N/A	USA	23-Nov-15
	2018272291	22-May-18	Pending	N/A	Australia	22-May-17
	3064171	22-May-18	Pending	N/A	Canada	22-May-17
	201880046299.0	22-May-18	Pending	N/A	China	22-May-17
	18727411.3	22-May-18	Pending	N/A	Europe	22-May-17
	62020015441	22-May-18	Pending	N/A	Hong Kong	22-May-17
	270684	22-May-18	Pending	N/A	Israel	22-May-17
	2019-563398	22-May-18	Pending	N/A	Japan	22-May-17
	10-2019-7037538	22-May-18	Pending	N/A	Korea	22-May-17
	11201910612Y	22-May-18	Pending	N/A	Singapore	22-May-17
MRX010 in the treatment of CNS disorders Data demonstrative of the efficacy of MRX010 in animal models for ASD / depressive disorders included.	107117439	22-May-18	Pending	N/A	Taiwan	22-May-17
	16/692667	22-May-18	Pending	N/A	US	22-May-17
	18727412.1	22-May-18	Pending	N/A	Europe	22-May-17
	2019-563621	22-May-18	Pending	N/A	Japan	22-May-17
	107117430	22-May-18	Pending	N/A	Taiwan	22-May-17
	16/692734	22-May-18	Pending	N/A	US	22-May-17
	18727408.9	22-May-18	Granted	3630136	Europe	22-May-17
	62020015440	22-May-18	Pending	N/A	Hong Kong	22-May-17
	2019-563457	22-May-18	Pending	N/A	Japan	22-May-17
	107117436	22-May-18	Pending	N/A	Taiwan	22-May-17
Blautia in the treatment of stroke. Data demonstrative of the efficacy of Blautix in the treatment of stroke included.	16/691169	22-May-18	Pending	N/A	US	22-May-17
	18727413.9	22-May-18	Pending	N/A	Europe	22-May-17
	62020015440	22-May-18	Pending	N/A	Hong Kong	22-May-17
	2019-563363	22-May-18	Pending	N/A	Japan	22-May-17
	107117437	22-May-18	Pending	N/A	Taiwan	22-May-17
	16/691439	22-May-18	Pending	N/A	US	22-May-17
	18728719.8	24-May-18	Pending	N/A	Europe	24-May-17
	2019-561937	24-May-18	Pending	N/A	Japan	24-May-17
	107117782	24-May-18	Pending	N/A	Taiwan	24-May-17
	Blautix in the treatment of autoimmune / inflammatory neurological disorders. Data demonstrative of the efficacy of Blautix in the treatment of MS included.	18728719.8	24-May-18	Pending	N/A	Europe
2019-561937		24-May-18	Pending	N/A	Japan	24-May-17
107117782		24-May-18	Pending	N/A	Taiwan	24-May-17
18728719.8		24-May-18	Pending	N/A	Europe	24-May-17
2019-561937		24-May-18	Pending	N/A	Japan	24-May-17
107117782		24-May-18	Pending	N/A	Taiwan	24-May-17
18728719.8		24-May-18	Pending	N/A	Europe	24-May-17
2019-561937		24-May-18	Pending	N/A	Japan	24-May-17
107117782		24-May-18	Pending	N/A	Taiwan	24-May-17
18728719.8		24-May-18	Pending	N/A	Europe	24-May-17

MRX554 in the treatment of cancer. Data included demonstrative of the efficacy of MRX554 in the treatment of cancer included.

	16/691136	24-May-18	Granted	10987387	US	24-May-17
	P/2019/012060	14-Jun-18	Pending	N/A	ARIPO	14-Jun-17
	2018285445	14-Jun-18	Granted	2018285445	Australia	14-Jun-17
	2020204265	14-Jun-18	Pending	N/A	Australia	14-Jun-17
	112019026477-9	14-Jun-18	Pending	N/A	Brazil	14-Jun-17
	3066189	14-Jun-18	Pending	N/A	Canada	14-Jun-17
	201880039720.5	14-Jun-18	Pending	N/A	China	14-Jun-17
	201992647	14-Jun-18	Pending	N/A	Eurasia	14-Jun-17
			Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, the United Kingdom			
	18731819.1	14-Jun-18		3600363	Europe	14-Jun-17
	20210763.7	14-Jun-18	Pending	N/A	Europe	14-Jun-17
	62020011110	14-Jun-18	Pending	N/A	Hong Kong	14-Jun-17
	271152	14-Jun-18	Pending	N/A	Israel	14-Jun-17
	2019-567619	14-Jun-18	Pending	N/A	Japan	14-Jun-17
	2021-022774	14-Jun-18	Pending	N/A	Japan	14-Jun-17
	10-2019-7037443	14-Jun-18	Pending	N/A	Korea	14-Jun-17
	a/2019/015217	14-Jun-18	Pending	N/A	Mexico	14-Jun-17
	760637	14-Jun-18	Pending	N/A	New Zealand	14-Jun-17
	773318	14-Jun-18	Pending	N/A	New Zealand	14-Jun-17
	1201900488	14-Jun-18	Pending	N/A	OAPI	14-Jun-17
	519410804	14-Jun-18	Pending	N/A	Saudi Arabia	14-Jun-17

MRX005 in the Treatment / Prevention of
Neurodegeneration

	11201912105P	14-Jun-18	Pending	N/A	Singapore	14-Jun-17
	2019/08021	14-Jun-18	Pending	N/A	South Africa	14-Jun-17
	107120603	14-Jun-18	Pending	N/A	Taiwan	14-Jun-17
	P6001778/2019	14-Jun-18	Pending	N/A	UAE	14-Jun-17
	16/714023	14-Jun-18	Pending	N/A	USA	14-Jun-17
	P/2019/012055	14-Jun-18	Pending	N/A	ARIPO	14-Jun-17
	2018285453	14-Jun-18	Granted	2018285453	Australia	14-Jun-17
	2020204099	14-Jun-18	Pending	N/A	Australia	14-Jun-17
	112019026667-4	14-Jun-18	Pending	N/A	Brasil	14-Jun-17
	3066561	14-Jun-18	Pending	N/A	Canada	14-Jun-17
	201880039628.9	14-Jun-18	Pending	N/A	China	14-Jun-17
	201992648	14-Jun-18	Granted	201992648	Eurasia	14-Jun-17
	202092549	14-Jun-18	Pending	N/A	Eurasia	14-Jun-17
	18735196	14-Jun-18	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Iceland, Hungary, Latvia, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, the United Kingdom	3600364	Europe	14-Jun-17
	20189452.4	14-Jun-18	Pending	N/A	Europe	14-Jun-17
	62020010239	14-Jun-18	Granted	40020569	Hong Kong	14-Jun-17
	201917051889	14-Jun-18	Pending	N/A	India	14-Jun-17
	271265	14-Jun-18	Pending	N/A	Israel	14-Jun-17
	2019-567545	14-Jun-18	Pending	6837581	Japan	14-Jun-17
	2021-18974	14-Jun-18	Pending	N/A	Japan	14-Jun-17

MRX029 and its Use in the Treatment /
Prevention of Neurodegeneration

	10-2019-7037448	14-Jun-18	Pending	N/A		Korea	14-Jun-17
	a/2019/015218	14-Jun-18	Pending	N/A		Mexico	14-Jun-17
	a/2021/006456	14-Jun-18	Pending	N/A		Mexico	14-Jun-17
	760654	14-Jun-18	Pending	N/A		New Zealand	14-Jun-17
	773323	14-Jun-18	Pending	N/A		New Zealand	14-Jun-17
	1201900490	14-Jun-18	Pending	N/A		OAPI	14-Jun-17
	519410805	14-Jun-18	Pending	N/A		Saudi Arabia	14-Jun-17
	11201912153V	14-Jun-18	Pending	N/A		Singapore	14-Jun-17
	2019/08022	14-Jun-18	Pending	N/A		South Africa	14-Jun-17
	107120441	14-Jun-18	Pending	N/A		Taiwan	14-Jun-17
	P6001780/2019	14-Jun-18	Pending	N/A		UAE	14-Jun-17
	16/714092	14-Jun-18	Granted	11007233		USA	14-Jun-17
	17/221011	14-Jun-18	Pending	N/A		USA	14-Jun-17
	P/2019/012057	14-Jun-18	Pending	N/A		ARIPO	14-Jun-17
	2018283994	14-Jun-18	Pending	N/A		Australia	14-Jun-17
	112019026677-1	14-Jun-18	Pending	N/A		Brasil	14-Jun-17
	3066557	14-Jun-18	Pending	N/A		Canada	14-Jun-17
	201880038712.9	14-Jun-18	Pending	N/A		China	14-Jun-17
	201992649	14-Jun-18	Pending	N/A		Eurasia	14-Jun-17
	18732044.5	14-Jun-18	Pending	N/A		Europe	14-Jun-17
	62020015427	14-Jun-18	Pending	N/A		Hong Kong	14-Jun-17
	202017001089	14-Jun-18	Pending	N/A		India	14-Jun-17
	271319	14-Jun-18	Pending	N/A		Israel	14-Jun-17
	2019-568002	14-Jun-18	Pending	N/A		Japan	14-Jun-17
	10-2019-7037450	14-Jun-18	Pending	N/A		Korea	14-Jun-17
	a/2019/015219	14-Jun-18	Pending	N/A		Mexico	14-Jun-17
	760605	14-Jun-18	Pending	N/A		New Zealand	14-Jun-17
	1201900491	14-Jun-18	Pending	N/A		OAPI	14-Jun-17
	519410764	14-Jun-18	Pending	N/A		Saudi Arabia	14-Jun-17
	11201912156Q	14-Jun-18	Pending	N/A		Singapore	14-Jun-17
	2019/08197	14-Jun-18	Pending	N/A		South Africa	14-Jun-17
	107120503	14-Jun-18	Pending	N/A		Taiwan	14-Jun-17
	P6001781/2019	14-Jun-18	Pending	N/A		UAE	14-Jun-17
	16/713911	14-Jun-18	Pending	N/A		USA	14-Jun-17

Organic acid producing bacteria in the treatment
of CNS disorders

MRX001 in the Treatment / Prevention of Neurodegeneration	18731444.8	15-Jun-18	Granted, validated in Albania, Austria, Bosnia & Herzegovina, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, the United Kingdom	3638271	Europe	14-Jun-17
	2019-568210	15-Jun-18	Pending	N/A	Japan	14-Jun-17
	107120604	14-Jun-18	Pending	N/A	Taiwan	14-Jun-17
	16/713969	14-Jun-18	Pending	N/A	USA	14-Jun-17
	P/2020/012249	10-Aug-18	Pending	N/A	ARIPO	10-Aug-17
	2018312955	10-Aug-18	Pending	N/A	Australia	10-Aug-17
	112020002212-8	10-Aug-18	Pending	N/A	Brazil	10-Aug-17
	3072013	10-Aug-18	Pending	N/A	Canada	10-Aug-17
	201880055780.6	10-Aug-18	Pending	N/A	China	10-Aug-17
	18765808.3	10-Aug-18	Pending	N/A	Europe	10-Aug-17
	202090469	10-Aug-18	Pending	N/A	Eurasia	10-Aug-17
	62020019886	10-Aug-18	Pending	N/A	Hong Kong	10-Aug-17
	202017009372	10-Aug-18	Pending	N/A	India	10-Aug-17
	272491	10-Aug-18	Pending	N/A	Israel	10-Aug-17
	2020-505827	10-Aug-18	Pending	N/A	Japan	10-Aug-17
	10-2020-7006523	10-Aug-18	Pending	N/A	Korea	10-Aug-17
	a/2020/001632	10-Aug-18	Pending	N/A	Mexico	10-Aug-17
762454	10-Aug-18	Pending	N/A	New Zealand	10-Aug-17	
1202000071	10-Aug-18	Pending	N/A	OAPI	10-Aug-17	
520411270	10-Aug-18	Pending	N/A	Saudi Arabia	10-Aug-17	
MRX518 in increasing the diversity / inducing stability of the microbiome						

	11202001174X	10-Aug-18	Pending	N/A	Singapore	10-Aug-17
	2020/00559	10-Aug-18	Pending	N/A	South Africa	10-Aug-17
	107128096	10-Aug-18	Pending	N/A	Taiwan	10-Aug-17
	P6000188/2020	10-Aug-18	Pending	N/A	UAE	10-Aug-17
	16/784958	10-Aug-18	Pending	N/A	USA	10-Aug-17
	P/2020/012538	18-Jan-19	Pending	N/A	ARIPO	19-Jan-18
	2019210002	18-Jan-19	Pending	N/A	Australia	19-Jan-18
	112020014676-5	18-Jan-19	Pending	N/A	Brazil	19-Jan-18
	3088413	18-Jan-19	Pending	N/A	Canada	19-Jan-18
	01888-2020	18-Jan-19	Pending	N/A	Chile	19-Jan-18
	201980009130.2	18-Jan-19	Pending	N/A	China	19-Jan-18
	NC2020/0010013	18-Jan-19	Pending	N/A	Colombia	19-Jan-18
	202091636	18-Jan-19	Pending	N/A	Eurasia	19-Jan-18
	19701725.4	18-Jan-19	Pending	N/A	Europe	19-Jan-18
	62021029418	18-Jan-19	Pending	N/A	Hong Kong	19-Jan-18
	202017031621	18-Jan-19	Pending	N/A	India	19-Jan-18
	275949	18-Jan-19	Pending	N/A	Israel	19-Jan-18
	2020-538821	18-Jan-19	Pending	N/A	Japan	19-Jan-18
	10-2020-7021009	18-Jan-19	Pending	N/A	Korea	19-Jan-18
	a/2020/007671	18-Jan-19	Pending	N/A	Mexico	19-Jan-18
	766483	18-Jan-19	Pending	N/A	New Zealand	19-Jan-18
	2020-000052	18-Jan-19	Pending	N/A	Nicaragua	19-Jan-18
	1202000253	18-Jan-19	Pending	N/A	OAPI	19-Jan-18
	1-2020-551080	18-Jan-19	Pending	N/A	Philippines	19-Jan-18
	520412447	18-Jan-19	Pending	N/A	Saudi Arabia	19-Jan-18
	11202006871Y	18-Jan-19	Pending	N/A	Singapore	19-Jan-18
	2020/04235	18-Jan-19	Pending	N/A	South Africa	19-Jan-18
	108101942	18-Jan-19	Pending	N/A	Taiwan	19-Jan-18
	P6001048/2020	18-Jan-19	Pending	N/A	UAE	19-Jan-18
	16/932052	18-Jan-19	Pending	N/A	USA	19-Jan-18
	P/2020/012536	18-Jan-19	Pending	N/A	ARIPO	19-Jan-18
	2019210004	18-Jan-19	Pending	N/A	Australia	19-Jan-18
	112020014565-3	18-Jan-19	Pending	N/A	Brazil	19-Jan-18
	3088338	18-Jan-19	Pending	N/A	Canada	19-Jan-18
	201980009087.X	18-Jan-19	Pending	N/A	China	19-Jan-18
	202091730	18-Jan-19	Pending	N/A	Eurasia	19-Jan-18

MRX518 in Combination with Specific PD-1
Inhibitors

MRX518 in Combination with Pembrolizumab

	19703179.2	18-Jan-19	Pending	N/A	Europe	19-Jan-18
	62021029414	18-Jan-19	Pending	N/A	Hong Kong	19-Jan-18
	202017031434	18-Jan-19	Pending	N/A	India	19-Jan-18
	276074	18-Jan-19	Pending	N/A	Israel	19-Jan-18
	2020-538852	18-Jan-19	Pending	N/A	Japan	19-Jan-18
	10-2020-7021007	18-Jan-19	Pending	N/A	Korea	19-Jan-18
	a/2020/007664	18-Jan-19	Pending	N/A	Mexico	19-Jan-18
	766441	18-Jan-19	Pending	N/A	New Zealand	19-Jan-18
	1202000254	18-Jan-19	Pending	N/A	OAPI	19-Jan-18
	520412449	18-Jan-19	Pending	N/A	Saudi Arabia	19-Jan-18
	11202006873U	18-Jan-19	Pending	N/A	Singapore	19-Jan-18
	2020/04232	18-Jan-19	Pending	N/A	South Africa	19-Jan-18
	108101991	18-Jan-19	Pending	N/A	Taiwan	19-Jan-18
	P6001050/2020	18-Jan-19	Pending	N/A	UAE	19-Jan-18
	16/931104	18-Jan-19	Pending	N/A	USA	19-Jan-18
	2019210005	18-Jan-19	Pending	N/A	Australia	19-Jan-18
	112020014564-5	18-Jan-19	Pending	N/A	Brazil	19-Jan-18
	3088343	18-Jan-19	Pending	N/A	Canada	19-Jan-18
	201980009092	18-Jan-19	Pending	N/A	China	19-Jan-18
	202091635	18-Jan-19	Pending	N/A	Eurasia	19-Jan-18
	19704381.3	18-Jan-19	Pending	N/A	Europe	19-Jan-18
	62021029416	18-Jan-19	Pending	N/A	Hong Kong	19-Jan-18
	202017031620	18-Jan-19	Pending	N/A	India	19-Jan-18
	276073	18-Jan-19	Pending	N/A	Israel	19-Jan-18
	2020-538811	18-Jan-19	Pending	N/A	Japan	19-Jan-18
	10-2020-7021008	18-Jan-19	Pending	N/A	Korea	19-Jan-18
	a/2020/007665	18-Jan-19	Pending	N/A	Mexico	19-Jan-18
	766331	18-Jan-19	Pending	N/A	New Zealand	19-Jan-18
	1202000256	18-Jan-19	Pending	N/A	OAPI	19-Jan-18
	520412455	18-Jan-19	Pending	N/A	Saudi Arabia	19-Jan-18
	11202006874S	18-Jan-19	Pending	N/A	Singapore	19-Jan-18
	2020/04234	18-Jan-19	Pending	N/A	South Africa	19-Jan-18
	108101943	18-Jan-19	Pending	N/A	Taiwan	19-Jan-18
	P6001051/2020	18-Jan-19	Pending	N/A	UAE	19-Jan-18
	16/932048	18-Jan-19	Pending	N/A	USA	19-Jan-18
	P/2020/012535	18-Jan-19	Pending	N/A	ARIPO	19-Jan-18

MRX518 in Combination with PD-L1
Checkpoint Inhibitors

MRX518 in Combination with CTLA4

Checkpoint Inhibitors

2019210003	18-Jan-19	Pending	N/A	Australia	19-Jan-18
1120200145955	18-Jan-19	Pending	N/A	Brazil	19-Jan-18
3088333	18-Jan-19	Pending	N/A	Canada	19-Jan-18
201980009131.7	18-Jan-19	Pending	N/A	China	19-Jan-18
202091654	18-Jan-19	Pending	N/A	Eurasia	19-Jan-18
19703178.4	18-Jan-19	Pending	N/A	Europe	19-Jan-18
62021029417	18-Jan-19	Pending	N/A	Hong Kong	19-Jan-18
202017031433	18-Jan-19	Pending	N/A	India	19-Jan-18
275860	18-Jan-19	Pending	N/A	Israel	19-Jan-18
2020-537606	18-Jan-19	Pending	N/A	Japan	19-Jan-18
10-2020-7021004	18-Jan-19	Pending	N/A	Korea	19-Jan-18
a/2020/007681	18-Jan-19	Pending	N/A	Mexico	19-Jan-18
766028	18-Jan-19	Pending	N/A	New Zealand	19-Jan-18
1202000252	18-Jan-19	Pending	N/A	OAPI	19-Jan-18
520412456	18-Jan-19	Pending	N/A	Saudi Arabia	19-Jan-18
2020/04066	18-Jan-19	Pending	N/A	South Africa	19-Jan-18
11202006870X	18-Jan-19	Pending	N/A	Singapore	19-Jan-18
108101920	18-Jan-19	Pending	N/A	Taiwan	19-Jan-18
P6001049/2020	18-Jan-19	Pending	N/A	UAE	19-Jan-18
16/931110	18-Jan-19	Pending	N/A	USA	19-Jan-18
P/2020/012718.	19-Mar-19	Pending	N/A	ARIPO	19-Mar-18
2019239048	19-Mar-19	Pending	N/A	Australia	19-Mar-18
112020019008.0	19-Mar-19	Pending	N/A	Brazil	19-Mar-18
3094139	19-Mar-19	Pending	N/A	Canada	19-Mar-18
201980020532.2	19-Mar-19	Pending	N/A	China	19-Mar-18
202092204	19-Mar-19	Pending	N/A	Eurasia	19-Mar-18
19714132.8	19-Mar-19	Pending	N/A	Europe	19-Mar-18
202017045285	19-Mar-19	Pending	N/A	India	19-Mar-18
277421	19-Mar-19	Pending	N/A	Israel	19-Mar-18
2020-550598	19-Mar-19	Pending	N/A	Japan	19-Mar-18
10-2020-7029431	19-Mar-19	Pending	N/A	Korea	19-Mar-18
a/2020/009733	19-Mar-19	Pending	N/A	Mexico	19-Mar-18
768856	19-Mar-19	Pending	N/A	New Zealand	19-Mar-18
1202000352	19-Mar-19	Pending	N/A	OAPI	19-Mar-18
520420165	19-Mar-19	Pending	N/A	Saudi Arabia	19-Mar-18
11202009259V	19-Mar-19	Pending	N/A	Singapore	19-Mar-18

MRX518 FlageUlin

	2020/05658	19-Mar-19	Pending	N/A	South Africa	19-Mar-18
	108109387	19-Mar-19	Pending	N/A	Taiwan	19-Mar-18
	P6001311/2020	19-Mar-19	Pending	N/A	UAE	19-Mar-18
	17/025706	19-Mar-19	Pending	N/A	USA	19-Mar-18
	P/2020/012684	19-Mar-19	Pending	N/A	ARIPO	19-Mar-18
	2019238358	19-Mar-19	Pending	N/A	Australia	19-Mar-18
	112020018818.2	19-Mar-19	Pending	N/A	Brazil	19-Mar-18
	3094297	19-Mar-19	Pending	N/A	Canada	19-Mar-18
	201980026687.7	19-Mar-19	Pending	N/A	China	19-Mar-18
	202092149	19-Mar-19	Pending	N/A	Eurasia	19-Mar-18
	19714136.9	19-Mar-19	Pending	N/A	Europe	19-Mar-18
	202017040590	19-Mar-19	Pending	N/A	India	19-Mar-18
	277422	19-Mar-19	Pending	N/A	Israel	19-Mar-18
	2020-550823	19-Mar-19	Pending	N/A	Japan	19-Mar-18
	10-2020-7028232	19-Mar-19	Pending	N/A	Korea	19-Mar-18
	a/2020/009736	19-Mar-19	Pending	N/A	Mexico	19-Mar-18
	768093	19-Mar-19	Pending	N/A	New Zealand	19-Mar-18
	1202000353	19-Mar-19	Pending	N/A	OAPI	19-Mar-18
	520420163	19-Mar-19	Pending	N/A	Saudi Arabia	19-Mar-18
	11202009254Y	19-Mar-19	Pending	N/A	Singapore	19-Mar-18
	108109417	19-Mar-19	Pending	N/A	Taiwan	19-Mar-18
	P6001297/2020	19-Mar-19	Pending	N/A	UAE	19-Mar-18
	17/024628	19-Mar-19	Pending	N/A	USA	19-Mar-18
	2019264214	3-May-19	Pending	N/A	Australia	4-May-18
	3098968	3-May-19	Pending	N/A	Canada	4-May-18
	201980034317.8	3-May-19	Pending	N/A	China	4-May-18
	19722591.5	3-May-19	Pending	N/A	Europe	4-May-18
	62021028946	3-May-19	Pending	N/A	Hong Kong	4-May-18
	278353	3-May-19	Pending	N/A	Israel	4-May-18
	2020-561084	3-May-19	Pending	N/A	Japan	4-May-18
	1201700489	3-May-19	Pending	N/A	OAPI	4-May-18
	11202010935V	3-May-19	Pending	N/A	Singapore	4-May-18
	10-2020-7033453	3-May-19	Pending	N/A	Korea	4-May-18
	17/089370	3-May-19	Pending	N/A	USA	4-May-18
	P/2020/012829	13-May-19	Pending	N/A	ARIPO	11-May-18
	2019267171	13-May-19	Pending	N/A	Australia	11-May-18

Simulated Gastric Environment

MRX029 as an Immunostimulant and Cancer Therapy

MRX518 as an immunostimulant

MRX0029 in the treatment of autoimmune / inflammatory disorders.	112020022833-8	13-May-19	Pending	N/A	Brazil	11-May-18
	3098971	13-May-19	Pending	N/A	Canada	11-May-18
	201980031147.8	13-May-19	Pending	N/A	China	11-May-18
	202092549	13-May-19	Pending	N/A	Eurasia	11-May-18
	19725068.1	13-May-19	Pending	N/A	Europe	11-May-18
	62021031059	13-May-19	Pending	N/A	Hong Kong	11-May-18
	202017050473	13-May-19	Pending	N/A	India	11-May-18
	278471	13-May-19	Pending	N/A	Israel	11-May-18
	2020-545563	13-May-19	Pending	N/A	Japan	11-May-18
	10-2020-7035242	13-May-19	Pending	N/A	Korea	11-May-18
	a/2020/012061	13-May-19	Pending	N/A	Mexico	11-May-18
	770870	13-May-19	Pending	N/A	New Zealand	11-May-18
	1202000411	13-May-19	Pending	N/A	OAPI	11-May-18
	520420522	13-May-19	Pending	N/A	Saudi Arabia	11-May-18
	2020/06710	13-May-19	Pending	N/A	South Africa	11-May-18
	11202011028S	13-May-19	Pending	N/A	Singapore	11-May-18
	108116449	13-May-19	Pending	N/A	Taiwan	11-May-18
P6001565/2020	13-May-19	Pending	N/A	UAE	11-May-18	
17/013026	13-May-19	Pending	N/A	USA	11-May-18	
MRX0071 in the treatment of autoimmune / inflammatory disorders.	2019267170	13-May-19	Pending	N/A	Australia	11-May-18
	3099209	13-May-19	Pending	N/A	Canada	11-May-18
	201980031512.5	13-May-19	Pending	N/A	China	11-May-18
	19725067.3	13-May-19	Pending	N/A	Europe	11-May-18
	278452	13-May-19	Pending	N/A	Israel	11-May-18
	2020-562128	13-May-19	Pending	N/A	Japan	11-May-18
	10-2020-7035244	13-May-19	Pending	N/A	Korea	11-May-18
	11202011031U	13-May-19	Pending	N/A	Singapore	11-May-18
	108116469	13-May-39	Pending	N/A	Taiwan	11-May-18
	17/095427	13-May-39	Pending	N/A	USA	11-May-18
MRX0071 in the treatment of autoimmune / inflammatory disorders.	108120803	14-Jun-19	Pending	N/A	Taiwan	14-Jun-18
	2019287370	14-Jun-19	Pending	N/A	Australia	14-Jun-18
	3,099,880	14-Jun-19	Pending	N/A	Canada	14-Jun-18
	201980038757.0	14-Jun-19	Pending	N/A	China	14-Jun-18
	19730782.0	14-Jun-19	Pending	N/A	Europe	14-Jun-18

	62021029733	14-Jun-19	pending	N/A		Hong Kong	14-Jun-18
	279339	14-Jun-19	Pending	N/A		Israel	14-Jun-18
	2020-566881	14-Jun-19	Pending	N/A		Japan	14-Jun-18
	10-2020-7036890	14-Jun-19	Pending	N/A		Korea	14-Jun-18
	11202010958Y	14-Jun-19	Pending	N/A		Singapore	14-Jun-18
	17/121009	14-Jun-19	Pending	N/A		USA	14-Jun-18
	P/2020/012855	19-Jun-19	Pending	N/A		ARIPO	19-Jun-18
	2019289190	19-Jun-19	Pending	N/A		Australia	19-Jun-18
	112020025123-2	19-Jun-19	Pending	N/A		Brazil	19-Jun-18
	3103064	19-Jun-19	Pending	N/A		Canada	19-Jun-18
	201980040742.8	19-Jun-19	Pending	N/A		China	19-Jun-18
	202190065	19-Jun-19	Pending	N/A		Eurasia	19-Jun-18
	19734469	19-Jun-19	Pending	N/A		Europe	19-Jun-18
	202017054087	19-Jun-19	Pending	N/A		India	19-Jun-18
	279190	19-Jun-19	Pending	N/A		Israel	19-Jun-18
	2020-568341	19-Jun-19	Pending	N/A		Japan	19-Jun-18
MRX518 Formulation	10-2020-7035391	19-Jun-19	Pending	N/A		Korea	19-Jun-18
	a/2020/013282	19-Jun-19	Pending	N/A		Mexico	19-Jun-18
	770862	19-Jun-19	Pending	N/A		New Zealand	19-Jun-18
	1202000470	19-Jun-19	Pending	N/A		OAPI	19-Jun-18
	520420761	19-Jun-19	Pending	N/A		Saudi Arabia	19-Jun-18
	11202012621V	19-Jun-19	Pending	N/A		Singapore	19-Jun-18
	2020/07532	19-Jun-19	Pending	N/A		South Africa	19-Jun-18
	108121385	19-Jun-19	Pending	N/A		Taiwan	19-Jun-18
	P6001826/2020	19-Jun-19	Pending	N/A		UAE	19-Jun-18
	17/120856	19-Jun-19	Pending	N/A		USA	19-Jun-18
	2019294284	25-Jun-19	Pending	N/A		Australia	25-Jun-18
	3103161	25-Jun-19	Pending	N/A		Canada	25-Jun-18
	201980051210.4	25-Jun-19	Pending	N/A		China	25-Jun-18
	19755806.7	25-Jun-19	Granted	3723777		Europe	25-Jun-18
	21165418.1	25-Jun-19	Pending	N/A		Europe	25-Jun-18
	62021024261	25-Jun-19	Pending	n/A		Hong Kong	25-Jun-18
	279724	25-Jun-19	Pending	N/A		Israel	25-Jun-18
	2020-540266	25-Jun-19	Pending	N/A		Japan	25-Jun-18
	10-2021-7002203	25-Jun-19	Pending	N/A		Korea	25-Jun-18

MRX1342/MRX1343 in the treatment of autoimmune / inflammatory disorders.

	11202012221Y	25-Jun-19	Pending	N/A		Singapore	25-Jun-18
	108122216	25-Jun-19	Pending	N/A		Taiwan	25-Jun-18
	17/062239	25-Jun-19	Pending	N/A		USA	25-Jun-18
	PCT/EP2019/069162	16-Jul-19	Pending	N/A		PCT	16-Jul-18
	2019303990	16-Jul-19	Pending	N/A		Australia	16-Jul-18
	3106139	16-Jul-19	Pending	N/A		Canada	16-Jul-18
	201980052231.8	16-Jul-19	Pending	N/A		China	16-Jul-18
	19742028.4	16-Jul-19	Pending	N/A		Europe	16-Jul-18
	N/A	16-Jul-19	not filed	N/A		Hong Kong	16-Jul-18
	279963	16-Jul-19	Pending	N/A		Israel	16-Jul-18
	2021-501030	16-Jul-19	Pending	N/A		Japan	16-Jul-18
	10-2021-7003981	16-Jul-19	Pending	N/A		Korea	16-Jul-18
	11202100228X	16-Jul-19	Pending	N/A		Singapore	16-Jul-18
	17/149990	16-Jul-19	Pending	N/A		USA	16-Jul-18
	108125137	16-Jul-19	Pending	N/A		Taiwan	16-Jul-18
	PCT/EP2019/072181	19-Aug-19	Pending	N/A		PCT	17-Aug-18
	2019322090	19-Aug-19	Pending	N/A		Australia	17-Aug-18
	P/2021/013036	19-Aug-19	Pending	N/A		ARIPO	17-Aug-18
	112021002917-6	19-Aug-19	Pending	N/A		Brazil	17-Aug-18
	3108235	19-Aug-19	Pending	N/A		Canada	17-Aug-18
	201980070558.8	19-Aug-19	Pending	N/A		China	17-Aug-18
	202190554	19-Aug-19	Pending	N/A		Eurasia	17-Aug-18
	19765179.7	19-Aug-19	Pending	N/A		Europe	17-Aug-18
	202117010374	19-Aug-19	Pending	N/A		India	17-Aug-18
	280895	19-Aug-19	Pending	N/A		Israel	17-Aug-18
	2021-505956	19-Aug-19	Pending	N/A		Japan	17-Aug-18
	10-2021-7006605	19-Aug-19	Pending	N/A		Korea	17-Aug-18
	a/2021/001888	19-Aug-19	Pending	N/A		Mexico	17-Aug-18
	1202100063	19-Aug-19	Pending	N/A		OAPI	17-Aug-18
	774026	19-Aug-19	Pending	N/A		New Zealand	17-Aug-18
	521421250	19-Aug-19	Pending	N/A		Saudi Arabia	17-Aug-18
	11202101580T	19-Aug-19	Pending	N/A		Singapore	17-Aug-18
	2021/00584	19-Aug-19	Pending	N/A		South Africa	17-Aug-18
	108129383	16-Aug-19	Pending	N/A		Taiwan	17-Aug-18
	6000229/2021	19-Aug-19	Pending	N/A		UAE	17-Aug-18
	17/176791	19-Aug-19	Pending	N/A		USA	17-Aug-18

MRX004 as an Immunostimulant

Blautix in the treatment of acute lung injury

MRx0076 in the treatment of autoimmune / inflammatory disorders	PCT/EP2019/075396	20-Sep-19	Pending	N/A	PCT	20-Sep-18
	19769815.2	20-Sep-19	not filed	N/A	Europe	20-Sep-18
	2021-515197	20-Sep-19	pending	N/A	Japan	20-Sep-18
	17204996	20-Sep-19	pending	N/A	USA	20-Sep-18
	108134129	20-Sep-19	Pending	N/A	Taiwan	20-Sep-18
	PCT/EP2019/078598	21-Oct-19	Pending	N/A	PCT	19-Oct-18
	19801215.5	21-Oct-19	pending	N/A	Europe	19-Oct-18
	2021518945	21-Oct-19	pending	N/A	Japan	19-Oct-18
	17231247	21-Oct-19	pending	N/A	USA	19-Oct-18
	108137906	21-Oct-19	Pending	N/A	Taiwan	19-Oct-18
MRx0005 as a vaccine adjuvant	PCT/EP2019/080131	4-Nov-19	Pending	N/A	PCT	2-Nov-18
	2019373731	4-Nov-19	Pending	N/A	Australia	2-Nov-18
	201980072246.0	4-Nov-19	Pending	N/A	China	2-Nov-18
	282439	4-Nov-19	Pending	N/A	Israel	2-Nov-18
	10-2021-7014421	4-Nov-19	Pending	N/A	Korea	2-Nov-18
	11202104258T	4-Nov-19	Pending	N/A	Singapore	2-Nov-18
	108139911	4-Nov-19	Pending	N/A	Taiwan	2-Nov-18
	17/245060	4-Nov-19	Pending	N/A	USA	2-Nov-18
	PCT/EP2019/077332	9-Oct-19	Pending	N/A	PCT	9-Oct-18
	2019358439	9-Oct-19	Pending	N/A	Australia	9-Oct-18
Theatix to stabilise the microbiome	112021006660-8	9-Oct-19	Pending	N/A	Brazil	9-Oct-18
	3115590	9-Oct-19	Pending	N/A	Canada	9-Oct-18
	201980066326.5	9-Oct-19	Pending	N/A	China	9-Oct-18
	202190876	9-Oct-19	Pending	N/A	Eurasia	9-Oct-18
	19794894.6	9-Oct-19	Pending	N/A	Europe	9-Oct-18
	202117020902	9-Oct-19	Pending	N/A	India	9-Oct-18
	281951	9-Oct-19	Pending	N/A	Israel	9-Oct-18
	2021-518476	9-Oct-19	Pending	N/A	Japan	9-Oct-18
	10-2021-7011650	9-Oct-19	Pending	N/A	Korea	9-Oct-18
	a/2021/004150	9-Oct-19	Pending	N/A	Mexico	9-Oct-18
Theatix to stabilise the microbiome	775868	9-Oct-19	Pending	N/A	New Zealand	9-Oct-18
	521421673	9-Oct-19	Pending	N/A	Saudi Arabia	9-Oct-18
	11202103605W	9-Oct-19	Pending	N/A	Singapore	9-Oct-18
	108136758	8-Oct-19	Pending	N/A	Taiwan	9-Oct-18
	6000553/2021	8-Oct-19	Pending	N/A	UAE	9-Oct-18
	17/226148	8-Oct-19	Pending	N/A	USA	9-Oct-18

Valeric Acid Producers / MRx0029 in the Treatment of C Diff Infection	PCT/EP2019/084993	12-Dec-19	Pending	N/A	PCT	12-Dec-18
	108145615	12-Dec-19	Pending	N/A	Taiwan	12-Dec-18
MRx0029 in the treatment of Serotonin Deficiency	PCT/EP2019/084991	12-Dec-19	Pending	N/A	PCT	12-Dec-18
	283751	12-Dec-19	Pending	N/A	Israel	12-Dec-18
	108145619	12-Dec-19	Pending	N/A	Taiwan	12-Dec-18
MRx0005 in the treatment of MEK / ERK Cancers	PCT/EP2019/084994	12-Dec-19	Pending	N/A	PCT	12-Dec-18
	112021010917-0	12-Dec-19	Pending	N/A	Brazil	12-Dec-18
	108145620	12-Dec-19	Pending	N/A	Taiwan	12-Dec-18
	PCT/EP2020/063084	11-May-20	Pending	N/A	PCT	10-May-19
Blautix in the treatment of fibromyalgia	109115641	11-May-20	Pending	N/A	Taiwan	10-May-19
	PCT/EP2020/068867	3-Jul-20	Pending	N/A	PCT	5-Jul-19
Anaerostipes / Eubacterium / Faecalibacterium in the treatment of HDAC mediated / CNS disease	109122678	3-Jul-20	Pending	N/A	Taiwan	5-Jul-19
	PCT/EP2020/063854	18-May-20	Pending	N/A	PCT	20-Nov-19
Fusicamibacter (including MRx1578) in the treatment of CNS disorders	PCT/EP2020/082991	20-Nov-20	Pending	N/A	PCT	20-Nov-19
	109140098	17-Nov-20	Pending	N/A	Taiwan	20-Nov-19
	109145175	18-Dec-20	Pending	N/A	Taiwan	20-Dec-19
Preparation and formulation of biomass (including Bacteroides)	PCT/EP2020/086456	16-Dec-20	Pending	N/A	PCT	16-Dec-19
	109144180	15-Dec-20	Pending	N/A	Taiwan	16-Dec-19
Clostridiaceae (including MRx1330) in the treatment of CNS disorders	PCT/EP2020/087317	18-Dec-20	Pending	N/A	PCT	20-Dec-19
	109145151	18-Dec-20	Pending	N/A	Taiwan	20-Dec-19
Use of Enterococcus durans to treat CNS disorders	20153911.1	27-Jan-20	pending	N/A	Europe	N/A
	PCT/EP2021/051863	27-Jan-21	pending	N/A	PCT	27-Jan-20
	110102906	26-Jan-21	pending	N/A	Taiwan	27-Jan-20
Bacteroides to treat neuroinflammation	20183196.3	N/A	Pending	N/A	Europe	30-Jun-20
	2017110.4	30-Jun-20	Pending	N/A	GB	28-Oct-20

EXHIBIT C
Trademarks

4D PHARMA PLC / 4D PHARMA RESEARCH LIMITED

Family	Mark	Territory	Filing Date	Application No.	Registration No.	Registration Date	Status
1	abSH	France	27-May-10	3741190	3741190	27-May-10	Registered
2	THE MICROBIOTA COMPANY	France	26-Nov-10	3785451	3785451	26-Nov-10	Registered
3	ROSBURIX	EU	12-Nov-13	12301974	12301974	12-Nov-13	Registered
		Australia	18-May-18	1927838	1927838	N/A	Registered
		Canada	18-May-18	1899888	1899888	N/A	Registered
		EU	12-Nov-13	12301974	12301974	12-Nov-13	Converted
		France	12-Nov-13	4176538	4176538	12-Nov-13	Registered
		Germany	12-Nov-13	3020150336823	302015033682	12-Nov-13	Registered
		Hong Kong	18-May-18	304531815	304531815	N/A	Registered
		India	18-May-18	3837028	3837028	N/A	Registered
		Italy	12-Nov-13	302015000035107	302015000035107	12-Nov-13	Registered
		Japan	18-May-18	2018-064967	6126993	N/A	Registered
		Norway	18-May-18	300481	300481	N/A	Registered
		Russia	25-May-18	2018721648	694699	N/A	Registered
		South Korea	18-May-18	40-2018-0067853	1450449	N/A	Registered
		Spain	23-Mar-15	M3559078	M3559078	12-Nov-13	Registered
		Switzerland	18-May-18	73452/2018	724169	N/A	Registered
		United Kingdom	12-Nov-13	3101576	3101576	12-Nov-13	Registered
		Hong Kong	18-May-18	304531815	304531815	N/A	Registered
	4D	Argentina	27-Apr-17	3599001	N/A	18-Jan-17	Registered
	4D	Argentina	27-Apr-17	3598999	N/A	18-Jan-17	Pending
	4D	Argentina	27-Apr-17	3599000	N/A	18-Jan-17	Registered
	4D (Logo)	Argentina	21-Feb-20	3706325	3060325		Registered
	4D	Australia	24-Jan-17	1821721	1821721	24-Jan-17	Registered
4	THETANIX						
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ACTIVE 52913954V1

4D	Brazil	29-Mar-17	912502266	N/A	18-Jan-17	Pending
4D	Brazil	29-Mar-17	912502630	912502630	18-Jan-17	Registered
4D	Brazil	29-Mar-17	912502690	N/A	18-Jan-17	Pending
4D	Canada	25-Jan-17	1819772	N/A	25-Jan-17	Pending
4D (Logo)	Canada	4-May-18	1897419	1093112	N/A	Registered
4D Pharma	China	30-Mar-17	23319504	23319504	N/A	Registered
4D Pharma	China	30-Mar-17	23319505	N/A		Pending
4D Pharma	China	30-Mar-17	23319506	N/A		Pending
4D (Logo)	China	30-Mar-17	23319507	23319507	N/A	Registered
4D (Logo)	China	30-Mar-17	23319508	N/A		Pending
4D (Logo)	China	30-Mar-17	23319509	N/A		Pending
4D	EU	18-Jan-17	16257784	16257784		Registered
4D	Hong Kong	24-Jan-17	304030541	304030541		Registered
4D (Logo)	Iceland	1-Nov-18	1442155	1442155		Registered
4D	India	24-Jan-17	3465777	N/A		Pending
4D	India	24-Jan-17	3465778	N/A		Pending
4D	India	24-Jan-17	3465779	N/A		Pending
4D (Logo)	International (Madrid)	1-Nov-18	1442155	1442155	1-May-18	Registered
4D	Israel	1-May-18	1411504	1411504		Registered
4D Pharma	Japan	15-Mar-17	6006664			Registered
4D (Logo)	Japan	15-Mar-17	6006665			Registered
4D	Mexico	26-Jan-17	1846590	N/A		Pending
4D	Mexico	26-Jan-17	1846591	N/A		Pending
4D	Mexico	26-Jan-17	1846593	N/A		Pending
4D	New Zealand (IR)	1-May-18	1097472 (R1411504)	1097472 (R1411504)		Registered
4D	OAPI	11-May-18	3201801467	101256	N/A	Registered
4D Pharma	Russia	4-Apr-17	2017712664	N/A		Registered
4D (Logo)	Russia	4-Apr-17	2017712665	670063		Registered
4D	Saudi Arabia	24-Jun-18	149522	149522		Registered
4D Logo	Singapore	1-Nov-18	1442155	1442155		Registered

6	4D	Switzerland	1-May-18	RI1411504	RI1411504		Registered
	4D (Logo)	Switzerland	1-Nov-18	1442155	1442155		Registered
	4D	Taiwan	24-Jan-17	106004793	N/A		Pending
	4D Pharma	Taiwan	N/A	N/A	N/A	N/A	To be filed
	4D (Logo)	Turkey	1-Nov-18	1442155	1442155		Registered
	4D	UAE	10-Jun-18	293478	293478	10-Jun-18	Registered
	4D	United Kingdom	18-Jan-17	3207394	3207394		Registered
	4D (Logo)	United Kingdom	1-May-18	3307882	3307882	1-May-18	Pending
	4D	United States	5-Apr-17	877399251	N/A	18-Jan-17	Pending
	4D	Venezuela	8-May-17	2017-007084	372520	18-Jan-17	Registered
	4D	Venezuela	8-May-17	2017-007085	372521	18-Jan-17	Registered
	4D	Venezuela	8-May-17	2017-007086	S-070813	18-Jan-17	Registered
	MicroRx	Argentina	27-Apr-17	3598997	N/A	18-Jan-17	Pending
	MicroRx	Australia	24-Jan-17	1821722	1821722	24-Jan-17	Registered
MicroRx	Brazil	29-Mar-17	912502843	912502843	18-Jan-17	Registered	
MicroRx	Canada	25-Jan-17	1819773	N/A	25-Jan-17	Pending	
MicroRx	China	30-Mar-17	23319503	23319503		Registered	
MicroRx	EU	23-Jan-14	12529962	12529962	23-Jan-14	Registered	
MicroRx	Hong Kong	24-Jan-17	304030550			Registered	
MicroRx	India	24-Jan-17	3465780	N/A		Pending	
MicroRx	Japan	26-Jan-17	5977630			Registered	
MicroRx	Mexico	26-Jan-17	1761327			Registered	
MicroRx	Norway	18-May-18	300874	300874	N/A	Registered	
MicroRx	Russia	31-Jan-17	639439			Registered	
MicroRx	South Korea	18-May-18	40-2018-0067936	1450450	N/A	Registered	
MicroRx	Switzerland	18-May-18	734312018	722498	N/A	Registered	
MicroRx	Taiwan	24-Jan-17	1862581			Registered	
MicroRx	United Kingdom	18-Jan-17	3207389	3207389	18-Jan-17	Registered	
MicroRx	United States	5-Apr-17	877399272	N/A	18-Jan-17	Pending	
MicroRx	Venezuela	8-May-17	2017-007087	S-070814	18-Jan-17	Registered	
MicroDx	Argentina	27-Apr-17	3598998	N/A	18-Jan-17	Pending	
7							

	MicroDx	Australia	24-Jan-17	1821723	1821723	24-Jan-17	Registered
	MicroDx	Brazil	29-Mar-17	912502959	912502959	18-Jan-17	Registered
	MicroDx	Canada	25-Jan-17	1819774	N/A	25-Jan-17	Pending
	MicroDx	China	30-Mar-17	23319502	23319502	N/A	Registered
	MicroDx	EU	18-Jan-17	16257776	16257776		Registered
	MicroDx	Hong Kong	24-Jan-17	304030569			Registered
	MicroDx	India	24-Jan-17	3465781	3465781		Registered
	MicroDx	Japan	26-Jan-17	5977631			Registered
	MicroDx	Mexico	26-Jan-17	1757491			Registered
	MicroDx	Norway	18-May-18	300876	300876	N/A	Registered
	MicroDx	Russia	31-Jan-17	639438			Registered
	MicroDx	Taiwan	24-Jan-17	1862582			Registered
	MicroDx	South Korea	18-May-18	40-2018-0067941	1450451	N/A	Registered
	MicroDx	Switzerland	16-Oct-18	73454/2018	722500	N/A	Registered
	MicroDx	United Kingdom	18-Jan-17	3207392	3207392	18-Jan-17	Registered
	MicroDx	United States	5-Apr-17	87/399262	N/A	18-Jan-17	Pending
	MicroDx	Venezuela	8-May-17	2017-007088	S-070815	18-Jan-17	Registered
8	TRANSBIOICS	United Kingdom	10-Oct-17	3262417	3262417	10-Oct-17	Registered
9	TRANSBIOITCS	United Kingdom	10-Oct-17	3262419	3262419	10-Oct-17	Registered
10	TRANSBIOIME	United Kingdom	10-Oct-17	3262420	3262419	10-Oct-17	Registered
	BLAUITIX	Australia	18-May-18	1924438	1924438	N/A	Registered
	BLAUITIX	Canada	4-May-18	1897441	1897441	N/A	Registered
	BLAUITIX	EU	2-May-18	17894436	17894436	N/A	Registered
	BLAUITIX	Japan	9-May-18	2018-060225	6126958	N/A	Registered
	BLAUITIX	Hong Kong	4-May-18	304515174	304515174	N/A	Registered
	BLAUITIX	India	4-May-18	3824242	3824242	N/A	Registered
	BLAUITIX	Norway	18-May-18	300882	300882	N/A	Registered
	BLAUITIX	Russia	4-May-18	2018718285	692027	N/A	Registered
	BLAUITIX	South Korea	4-May-18	40-2018-0060864	1450436	N/A	Registered
	BLAUITIX	Switzerland	17-May-18	73431/2018	724170	N/A	Registered
	BLAUITIX	United Kingdom	2-May-18	3308252	3308252	2-May-18	Pending

12	MRX	Australia	28-Mar-18	1916412	1916412	N/A	N/A	Registered
	MRX	Korea (South)	29-Mar-18	40-2018-0041150	40-1419934	N/A	N/A	Registered
	MRX	India	28-Mar-18	3790934	3790934	N/A	N/A	Registered
	MRX	Norway	18-May-18	300878	300878	N/A	N/A	Registered
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Australia	6-May-21	2176145	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Brazil	11-May-21	922915210	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Brazil	11-May-21	922915288	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Canada	5-May-21	2104611	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	China	12-May-21	55984429	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	China	12-May-21	55998564	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Europe	5-May-21	18466250	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Hong Kong	6-May-21	305616513	N/A	N/A	N/A	Pending
13	DEVELOPING SCIENCE, DELIVERING THERAPIES	Iceland	5-May-21	V0121474	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	India	12-May-21	4971543	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	India	12-May-21	4971544	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Israel	6-May-21	339045	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Japan	14-May-21	202158789	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Mexico	6-May-21	134622	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Mexico	6-May-21	134623	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	New Zealand	6-May-21	1177963	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Russia	7-May-21	2021728030	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Saudi Arabia	30-May-21	292070	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Saudi Arabia	30-May-21	292071	N/A	N/A	N/A	Pending
	DEVELOPING SCIENCE, DELIVERING THERAPIES	Singapore	6-May-21	40202110409T	N/A	N/A	N/A	Pending
DEVELOPING SCIENCE, DELIVERING THERAPIES	Switzerland	6-May-21	72232021	N/A	N/A	N/A	Pending	
DEVELOPING SCIENCE, DELIVERING THERAPIES	Taiwan	6-May-21	110031966	N/A	N/A	N/A	Pending	
DEVELOPING SCIENCE, DELIVERING THERAPIES	Turkey	6-May-21	2021069927	N/A	N/A	N/A	Pending	
DEVELOPING SCIENCE, DELIVERING THERAPIES	USA	25-May-21	90732209	N/A	N/A	N/A	Pending	
DEVELOPING SCIENCE, DELIVERING THERAPIES	United Kingdom	5-May-21	3636874	N/A	N/A	N/A	Pending	

TRADEMARK