

## TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

ETAS ID: TM773552

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT		
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST		
<b>CONVEYING PARTY DATA</b>			
<b>Name</b>	<b>Formerly</b>	<b>Execution Date</b>	<b>Entity Type</b>
VEDANTA BIOSCIENCES, INC.		12/09/2022	Corporation: DELAWARE
<b>RECEIVING PARTY DATA</b>			
<b>Name:</b>	OXFORD FINANCE LLC		
<b>Street Address:</b>	115 South Union Street		
<b>Internal Address:</b>	Suite 300		
<b>City:</b>	Alexandria		
<b>State/Country:</b>	VIRGINIA		
<b>Postal Code:</b>	22314		
<b>Entity Type:</b>	Limited Liability Company: DELAWARE		
<b>PROPERTY NUMBERS Total: 2</b>			
<b>Property Type</b>	<b>Number</b>	<b>Word Mark</b>	
<b>Registration Number:</b>	6019119	VEDANTA BIOSCIENCES	
<b>Registration Number:</b>	6019120	VV	
<b>CORRESPONDENCE DATA</b>			
<b>Fax Number:</b>			
<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>Email:</b>	bethany.stokes@gtlaw.com		
<b>Correspondent Name:</b>	Bethany A. Stokes		
<b>Address Line 1:</b>	Greenberg Traurig, LLP		
<b>Address Line 2:</b>	One international Place, Suite 2000		
<b>Address Line 4:</b>	Boston, MASSACHUSETTS 02110		
<b>ATTORNEY DOCKET NUMBER:</b>	138179.018400		
<b>NAME OF SUBMITTER:</b>	Bethany A. Stokes		
<b>SIGNATURE:</b>	/Bethany A. Stokes/		
<b>DATE SIGNED:</b>	12/12/2022		
<b>Total Attachments: 30</b>			
source=Oxford (Vedanta) - IP Security Agreement - Dec. 2022 (Executed)#page1.tif			
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## INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of December 9, 2022 by and between OXFORD FINANCE LLC, a Delaware limited liability company with an office located at 115 South Union Street, Suite 300, Alexandria, Virginia 22314 (“**Oxford**”), as collateral agent (in such capacity, “**Collateral Agent**”), the Lenders listed on Schedule 1.1 of the Loan Agreement (as defined below) or otherwise a party thereto from time to time including Oxford in its capacity as a Lender (each a “**Lender**” and collectively, the “**Lenders**”), and VEDANTA BIOSCIENCES, INC., a Delaware corporation with offices located at 19 Blackstone St., Cambridge, Massachusetts 02139 (“**Grantor**”).

### RECITALS

A. Lenders 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 between Collateral Agent, the Lenders and Grantor dated as of September 2, 2020 (as the same may be 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 the Intellectual Property Collateral (as defined below) to secure the obligations of Grantor under the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has already granted to Collateral Agent, for the benefit of the Lenders, a security interest in all of Grantor’s right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral (other than the Intellectual Property Collateral).

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 Grantor hereby grants and pledges to Collateral Agent, for the 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 those copyrights, patents, trademarks and mask works listed on Exhibits A, B, C, and D hereto, and including without limitation all proceeds thereof (such as, by way of example but not by way of limitation, license royalties and proceeds of infringement suits), the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part thereof.

This security interest is granted in conjunction with the security interest granted to Collateral Agent, for the benefit of the Lenders, under the Loan 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, for the benefit of the Lenders, 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 Lender, of any or all other rights, powers or remedies.

*[Balance of Page Intentionally Left Blank]*

Address of Grantor:

19 Blackstone St.  
Cambridge, MA 02139  
Attn: Bernat Olle

Address of Lender:

115 South Union Street  
Suite 300  
Alexandria, VA 22314  
Attn: Legal Department

**GRANTOR:**

VEDANTA BIOSCIENCES, INC.

By: *Bernat Olle*  
Name: Bernat Olle  
Title: Chief Executive Officer

**COLLATERAL AGENT:**

OXFORD FINANCE LLC

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Address of Grantor:

19 Blackstone St.  
Cambridge, MA 02139

Attn: \_\_\_\_\_

**GRANTOR:**

VEDANTA BIOSCIENCES, INC.

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address of Lender:

115 South Union Street  
Suite 300  
Alexandria, VA 22314  
Attn: Legal Department

**COLLATERAL AGENT:**

OXFORD FINANCE LLC

By: \_\_\_\_\_

Name: Colette H. Featherly

Title: Senior Vice President

EXHIBIT A

Copyrights

None.

EXHIBIT B

Patents

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
1001-P-JP	JP					Foreign priority	2010-129134	Jun 4, 2010					
1001-P-PCT	WO	P0745.70001WO00		Honda, Atarashi, Itoh	The University of Tokyo	Foreign priority	PCT/JP2010/071746	Dec 3, 2010	WO2011/151941	Dec 8, 2011			
1001-PCT-1	WO	P0745.70002WO00	COMPOSITION FOR INDUCING PROLIFERATION OR ACCUMULATION OF REGULATORY T CELL	Honda, Atarashi, Itoh, Tanoue	The University of Tokyo	National Phase	PCT/JP2011/063302	Jun 3, 2011	WO2011/152566	Dec 8, 2011			
1001-CA-1	CA	P0745.70002CA00				Pending	2837679	Jun 3, 2011					
1001-CN-1	CN	P0745.70002CN00				Issued	201180037900.8	Jun 3, 2011	CN103079582A		ZL201180037900.8	Oct 1, 2019	Jun 3, 2031
1001-CN-2	CN	P0745.70002CN01				Pending	201910914490.9	Jun 3, 2011	CN110652528				
1001-EP-1	EP	P0745.70002EP00				Revoked	11728077.6	Jun 3, 2011	EP2575835		EP2575835	Oct 19, 2016	December 1, 2022
1001-EP-2	EP	P0745.70002EP01				Issued	16188203	Jun 3, 2011	EP3178483		EP3178483	Apr 29, 2020	Jun 3, 2031
1001-EP-3	EP	P0745.70002EP02				Issued	19168383.8	Jun 3, 2011	EP3539548		EP3539548	Apr 29, 2020	Jun 3, 2031
1001-EP-4	EP	P0745.70002EP03				Issued	19174499.4	Jun 3, 2011	EP3552613		EP3552613	Apr 29, 2020	Jun 3, 2031
1001-EP-5	EP	P0745.70002EP04				Pending	20169573.1	Jun 3, 2011	EP3750549	16-Dec-20			

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
1001-EP-6	EP	P0745.7 0002EP05				Pending	21205539.6	Jun 3, 2011	EP4014982	Jun 22, 2022			
1001-HK-6	HK	P0745.7 0002HK05				Pending	21205539.6	Jun 3, 2011	EP4014982	Jun 22, 2022			
1001-JP-1	JP	P0745.7 0002JP00				Issued	2012-554145	Jun 3, 2011			5592958	Aug 8, 2014	Jun 3, 2031
1001-JP-2	JP	P0745.7 0002JP01				Issued	2014-158066	Jun 3, 2011			5853063	Dec 11, 2015	Jun 3, 2031
1001-JP-3	JP	P0745.7 0002JP02				Issued	2015-238780	Jun 3, 2011			6115971	Mar 31, 2017	Jun 3, 2031
1001-JP-4	JP	P0745.7 0002JP03				Issued	2017-049543	Jun 3, 2011			6551944	Jul 31, 2019	Jun 3, 2031
1001-US-1	US	P0745.7 0002US00				Abandoned	13/701,467	Jun 3, 2011	US-2013-0149339	Jun 13, 2013			
1001-US-2	US	P0745.7 0002US01				Issued	14/492,850	Sep 22, 2014	US-2015-0143557	May 21, 2015	9433652	Sep 6, 2016	Jun 3, 2031
1001-US-3	US	P0745.7 0002US02				Issued	14/955,532	Dec 1, 2015	US-2016-0143960	May 26, 2016	9415079	Aug 16, 2016	Jun 3, 2031
1001-US-4	US	P0745.7 0002US03				Issued	14/955,630	Dec 1, 2015	US-2016-0151430	Jun 2, 2016	9421230	Aug 23, 2016	Jun 3, 2031
1001-US-5	US	P0745.7 0002US04				Issued	15/216,015	Jul 21, 2016	US-2017-0007691	Jan 12, 2017	9801933	Oct 31, 2017	Jun 3, 2031
1001-US-6	US	P0745.7 0002US05				Issued	15/374,488	Dec 9, 2016	US-2017-0087197	Mar 30, 2017	9642882	May 9, 2017	Jun 3, 2031
1001-US-7	US	P0745.7 0002US06				Issued	15/374,693	Dec 9, 2016	US-2017-0112915	Apr 27, 2017	9662381	May 30, 2017	Jun 3, 2031
1001-US-8	US	P0745.7 0002US07				Issued	15/472,840	Mar 29, 2017	US-2017-0232044	Aug 17, 2017	9827276	Nov 28, 2017	Jun 3, 2031
1001-US-9	US	P0745.7 0002US08				Issued	15/472,871	Mar 29, 2017	US-2017-0232045	Aug 17, 2017	9833483	Dec 5, 2017	Jun 3, 2031
1001-US-10	US	P0745.7 0002US09				Issued	15/590,257	May 9, 2017	US-2017-0246283	Aug 31, 2017	9808519	Nov 7, 2017	Jun 3, 2031
1001-US-11	US	P0745.7 0002US10				Issued	15/730,203	Oct 11, 2017	US-2018-0153981	Jun 7, 2018	10092603	Oct 9, 2018	Jun 3, 2031
1001-US-12	US	P0745.7 0002US11				Issued	16/117,054	Aug 30, 2018	US-2019-0030093	Jan 31, 2019	10322150	Jun 18, 2019	Jun 3, 2031
1001-US-13	US	P0745.7 0002US12				Issued	16/171,558	Oct 26, 2018	US-2019-0046592	Feb 14, 2019	10328108	Jun 25, 2019	Jun 3, 2031
1001-US-14	US	P0745.7 0002US13				Issued	16/389,380	Apr 19, 2019	US-2019-0282634	Sep 19, 2019	10588925	Mar 17, 2020	Jun 3, 2031
1001-US-15	US	P0745.7 0002US14				Issued	16/425,030	May 29, 2019	US-2019-0282635	Sep 19, 2019	10555978	Feb 11, 2020	Jun 3, 2031
1001-US-	US	P0745.7 0002US				Issued	16/780,116	Feb 3, 2020	US-2020-0246399	Aug 6, 2020	11090343	Aug 17, 2020	Jun 3, 2031



Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
16		15										2021	
1001-US-17	US	P0745.70002US16				Pending	17/371,692	Jul 9, 2021	US-2022-0096568-A1	Mar 31, 2022			
1002-P-1	US	P0745.70000US00				Expired	61/565976	Dec 1, 2011					
1002-P-2	US	P0745.70000US01				Expired	61/607360	Mar 6, 2012					
1002-PCT-1	WO	P0745.70000WO00	HUMAN-DERIVED BACTERIA THAT INDUCE PROLIFERATION OR ACCUMULATION OF REGULATORY T CELLS	Honda, Atarashi, Tanoue, Hattori, Morita	University of Tokyo; School Corporation, Azabu Veterinary Medicine Educational Institution	National Phase	PCT/JP2012/007687	Nov 29, 2012	WO2013/080561	Jun 6, 2013			
1002-CA-1	CA	P0745.70000CA00				Pending	2892588	Nov 29, 2012					
1002-CN-1	CN	P0745.70000CN00				Abandoned	2012-80068081.8	Nov 29, 2012					
1002-CN-2	CN	P0745.70000CN01				Pending	2018-10228890	Nov 29, 2012	CN108676774	Oct 19, 2018			
1002-EP-1	EP	P0745.70000EP00				Issued	12854485.5	Nov 29, 2012	EP2785828		EP2785828	Apr 8, 2020	Nov 29, 2032
1002-EP-2	EP	P0745.70000EP01				Pending	19178787.8	Nov 29, 2012	EP3569690				
1002-EP-3	EP	P0745.70000EP02				Pending	21198256.6	Nov 29, 2012	EP2978598				
1002-HK-1	HK	P0745.70000HK00				Abandoned	15104633.8	Nov 29, 2012	1204008A				
1002-HK-2	HK	P0745.70000HK01				Pending	19121179	Nov 29, 2012	1261280				
1002-JP-1	JP	P0745.70000JP00				Issued	2014-526308	Nov 29, 2012			6306507	Mar 16, 2018	Nov 29, 2032
1002-JP-2	JP	P0745.70000JP01				Issued	2017-213526	Nov 29, 2012			6492151	Mar 8, 2019	Nov 29, 2032
1002-JP-3	JP	P0745.70000JP02				Issued	2019-38453	Nov 29, 2012			7097838	Jul 8, 2022	Nov 29, 2032
1002-JP-4	JP	P0745.70000JP03				Allowed	2021-5834	Nov 2, 2021	JP2021078504	Jan 6, 2022			
1002-	US	P0745.7				Issued	14/362,097	Nov	US-2014-	Nov 20,	1023869	Mar	Nov

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
US-1		0000US02						29, 2012	0341921	2014	4	26, 2019	29, 2032
1002-US-2	US	P0745.70000US03				Issued	15/019,068	Feb 9, 2016	US-2016-193256	Jul 7, 2016	9642881	May 9, 2017	Nov 29, 2032
1002-US-3	US	P0745.70000US04				Issued	15/019,101	Feb 9, 2016	US-2016-193257	Jul 7, 2016	9649345	May 16, 2017	Nov 29, 2032
1002-US-4	US	P0745.70000US05				Issued	15/471,493	Mar 28, 2017	US-2017-0209502	Jul 27, 2017	10052353	Aug 21, 2018	Nov 29, 2032
1002-US-5	US	P0745.70000US06				Issued	15/487,553	Apr 14, 2017	US-2017-0216378	Aug 3, 2017	10058578	Aug 28, 2018	Nov 29, 2032
1002-US-6	US	P0745.70000US07				Issued	15/964,285	Apr 27, 2018	US-2018-0243348	Aug 30, 2018	10183045	Jan 22, 2019	Nov 29, 2032
1002-US-7	US	P0745.70000US08				Issued	16/160,004	Oct 15, 2018	US-2019-0030092	Jan 31, 2019	10342832	Jul 9, 2019	Nov 29, 2032
1002-US-8	US	P0745.70000US09				Issued	16/170,344	Oct 25, 2018	US-2019-0046591	Feb 14, 2019	10835559	Nov 17, 2019	Nov 29, 2032
1002-US-9	US	P0745.70000US10				Issued	16/427,899	May 31, 2019	US-2019-0314426	Oct 17, 2019	10624933	Apr 21, 2020	Nov 29, 2032
1002-US10	US	P0745.70000US11				Allowed	17/071425	Oct 15, 2020	US-2021-0137998-A1	13-May-21			
1003-P-1	US	P0745.70003US00		Honda, Olle, Atarashi, Tanoue, Ohno		Expired	61/844204	Jul 9, 2013					
1003-PCT-1	WO	P0745.70003WO00	COMPOSITIONS CONTAINING COMBINATIONS OF BIOACTIVE MOLECULES DERIVED FROM MICROBIOTA FOR TREATMENT OF DISEASE	Honda, Olle, Atarashi, Tanoue, Ohno, Fukuda, Hase	Puretech Ventures LLC (now Vedanta Biosciences Inc.); Riken	National Phase	PCT/US2014/045801	Jul 8, 2014	WO2015/06355	Jan 15, 2015			
1003-EP-1	EP	P0745.70003EP00				Abandoned	14822228	Jul 8, 2014	EP3019181				
1003-JP-1	JP	P0745.70003JP00				Abandoned	2016-525434	Jul 8, 2014					
1003-JP-2	JP	P0745.70003JP01				Abandoned	20190525434	Jul 8, 2014					

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
1003-US-1	US	P0745.7 0003US 01				Issued	14/903,377	Jul 8, 2014	US-2016- 0144014	May 26, 2016	9764019	Sep 19, 2017	Jul 8, 2034
1003-US-2	US	P0745.7 0003US 02				Expired	15/680,629	Aug 17, 2017	US-2018- 0000921	Jan 4, 2018	1013069 5	Nov 20, 2018	Nov 20, 2022
1003-US-3	US	P0745.7 0003US 03				Abandoned	16/160,869	Oct 15, 2018	US-2019- 0134179	May 9, 2019			
1004-P-1	US	P0745.7 0004US 00				Expired	61/978182	Apr 10, 2014					
1004-PCT-1	WO	P0745.7 0004WO 00	COMPOSITIONS AND METHODS FOR INDUCTION OF TH17 CELLS	Honda, Atarashi, Hattori, Morita	Riken; The University of Tokyo; School Corporation, Azabu Veterinary Medicine Educational Institution	National Phase	PCT/JP2015/061771	Apr 10, 2015	WO2015/156419	Oct 15, 2015			
1004-AU-1	AU	Takashi ma (P0745.7 0004AU 00)				Issued	2015244700	Apr 10, 2015			2015244 700	Aug 27, 2020	Apr 10, 2035
1004-AU-2	AU	Takashi ma (P0745.7 0004AU 01)				Pending	2020273293	Nov 19, 2020	AU202027 3293	Feb 17, 2020			
1004-CA-1	CA	Takashi ma (P0745.7 0004CA 00)				Pending	2944846	Apr 10, 2015					
1004-CN-1	CN	Takashi ma (P0745.7 0004CN 00)				Pending	2015800286 07	Apr 10, 2015					
1004-EP-1	EP	Takashi ma (P0745.7 0004EP0 0)				Pending	15776630	Apr 10, 2015	EP3129035				
1004-JP-1	JP	Takashi ma (P0745.7 0004JP0 0)				Issued	2017- 504545	Apr 10, 2015			6617935	Nov 22, 2019	Apr 10, 2035
1004-JP-2	JP	Takashi ma (P0745.7 0004JP0 0)				Pending	2019- 197970	Apr 10, 2015	JP2020014 483	Jan 30, 2020			

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
		1)											
1004-KR-1	KR	Takashi ma (P0745.7 0004KR 00)				Issued	10-2016- 7031388	Apr 10, 2015			1023773 96	Mar 22, 2022	Apr 10, 2035
1004-MX-1	MX	Takashi ma (P0745.7 0004MX 00)				Issued	MX/a/2016/ 013247	Apr 10, 2015			387331	Oct 26, 2021	Apr 10, 2035
1004-US-1	US	Takashi ma (P0745.7 0004US 01)				Issued	15/302,755	Apr 10, 2015	US-2017- 0028061	Feb 2, 2017	1030013 7	May 28, 2019	Apr 10, 2035
1004-US-2	US	Takashi ma (P0745.7 0004US 02)				Abandoned	16/375,935	Apr 5, 2019	US-2019- 0290753	Sep 26, 2019			
1004-US-3	US	Takashi ma (P0745.7 0004US 03)				Pending	17/321/131	May 14, 2021	US-2022- 0072125	Mar 10, 2022			
1005-P-1	US	P0745.7 0011US 00		Honda, Tanoue, Hattori	Keio Univer sity; Univer sity of Tokyo	Expire d	62/438,793	Dec 23, 2016					
1005-P-2	US	P0745.7 0011US 01		Honda, Tanoue, Hattori, Kawaka mi		Expire d	62/484,607	Apr 12, 2017					
1005-P-3	US	P0745.7 0011US 02		Honda, Tanoue, Hattori, Kawaka mi		Expire d	62/491,062	Apr 27, 2017					
1005-P-4	US	P0745.7 0011US 03		Honda, Tanoue, Hattori, Kawaka mi		Expire d	62/574,446	Oct 19, 2017					
1005-PCT-1	WO	P0745.7 0011WO 00	COMPOS ITIONS AND METHO DS FOR THE INDUCTI ON OF CD8+ T- CELLS	Honda, Tanoue, Hattori, Kawaka mi		Nation al phase	PCT/JP201 7/46232	Dec 22, 2017	WO2018/1 17263	Jun 28, 2018			
1005-AU-1	AU	JSR / Kuzuwa				Issued	2017738169 7	Dec 22, 2017			2017381 697	Dec 24, 2020	Dec 22, 2037
1005-AU-2	AU	JSR / Kuzuwa				Pending	2021201076	Feb 19, 2021	AU 202120107 6	Mar 11, 2021			

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
1005-BR-1	BR	JSR / Kuzuwa				Issued	BR11-2019-013125-6	Dec 22, 2017			112019013125	Feb 8, 2022	Dec 22, 2037
1005-CA-1	CA	JSR / Kuzuwa				Issued	3,045,098	Dec 22, 2017			3045098	Aug 10, 2021	Dec 22, 2037
1005-CA-2	CA	JSR / Kuzuwa				Pending	3122548A1	Dec 12, 2017	CA3122548	Jun 28, 2018			
1005-CN-1	CN	JSR / Kuzuwa				Pending	2017800803596	Dec 22, 2017					
1005-EP-1	EP	JSR / Kuzuwa				Pending	17884311	Dec 22, 2017	EP3559209				
1005-HK-1	HK	JSR / Kuzuwa				Pending	via EP	Dec 22, 2017					
1005-IL-1	IL	JSR / Kuzuwa				Issued	267566	Dec 22, 2017			267566	Oct 29, 2020	Dec 22, 2037
1005-IL-2	IL	JSR / Kuzuwa				Pending	277593	Sep 24, 2020	IL277593	Nov 30, 2020			
1005-IN-1	IN	JSR / Kuzuwa				Pending	201917027878	Dec 22, 2017	IN201917027878				
1005-JP-1	JP	JSR / Kuzuwa				Issued	2019-534762	Dec 22, 2017			7104921	Jul 22, 2022	Dec 22, 2037
1005-JP-2	JP	JSR / Kuzuwa				Pending	2022-104670	Jun 29, 2022	JP2022140439	Sep 26, 2022			
1005-KR-1	KR	JSR / Kuzuwa				Pending	10-2019-7017619	Dec 22, 2017	KR20190100266	Aug 28, 2019			
1005-MX-1	MX	JSR / Kuzuwa				Pending	MX/a/2019/007648	Dec 22, 2017	MX2019007648A	Feb 7, 2020			
1005-NZ-1	NZ	JSR / Kuzuwa				Pending	753907	Dec 22, 2017	NZ753907				
1005-RU-1	RU	JSR / Kuzuwa				Issued	2019123067	Dec 22, 2017			2761873	Dec 13, 2021	Dec 22, 2037
1005-SG-1	SG	JSR / Kuzuwa				Pending	11201904886	Dec 22, 2017					
1005-TW-1	TW	P0745.70011TW00				Pending	106145484	Dec 25, 2017	TW106145484	Aug 16, 2018			
1005-US-1	US	P0745.70011US04				Issued	16/421,557	May 24, 2019	US-2019-0343944	Nov 14, 2019	10576136	Mar 3, 2020	Dec 22, 2037
1005-US-2	US	P0745.70011US05				Issued	16/421,578	May 24, 2019	US-2019-0381111	Dec 19, 2019	10695412	30-Jun-20	Dec 22, 2037
1005-US-3	US	P0745.70011US06				Issued	16/472,937	Dec 22, 2017			11167018	Nov 9, 2021	Dec 24, 2037 (+2 PTA)
1005-US-4	US	P0745.70011US07				Pending	16/745,642	Jan 17, 2020	US-2020-0254079	Aug 13, 2020			

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1005-ZA-1	ZA	JSR / Kuzuwa				Pending	2019/03327	Dec 22, 2017					
1006-P-1	US	P0745.70016US00		Honda, Tanoue, Kawakami	Keio University	Expired	62/628,501	Feb 9, 2018					
1006-P-2	US	P0745.70016US01		Honda, Tanoue, Kawakami	Keio University	Expired	62/673,436	May 18, 2018					
1006-P-3	US	P0745.70016US02		Honda, Tanoue, Kawakami, Atarashi, Morita, Skelly	Keio University	Expired	62/737,318	Sep 27, 2018					
1006-P-4	US	P0745.70016US03		Honda, Tanoue, Kawakami, Atarashi, Morita, Skelly	Keio University	Expired	62/756,029	Nov 5, 2018					
1006-P-5	US	P0745.70016US04		Honda, Tanoue, Kawakami, Atarashi, Morita, Skelly	Keio University	Expired	62/795,506	Jan 22, 2019					
1006-PCT-1	WO	P0745.70016WO00	COMPOSITIONS AND METHODS FOR THE INDUCTION OF CD8+ T-CELLS	Honda, Tanoue, Kawakami, Atarashi, Morita, Skelly	Keio University	Pending	PCT/JP2019/004703	Feb 8, 2019	WO2019/156234	Aug 15, 2019			
1006-AU-1	AU	JSR / Kuzuwa				Issued	2019217041	Feb 8, 2019			2019217041	Sep 15, 2022	Feb 8, 2039
1006-CA-1	CA	JSR / Kuzuwa				Pending	3088505	Feb 8, 2019	CA3088505	Aug 15, 2019			
1006-CN-1	CN	JSR / Kuzuwa				Pending	201980012514.X	Feb 8, 2019	CN111886333	Nov 3, 2020			
1006-EP-1	EP	JSR / Kuzuwa				Pending	19750643.9	Feb 8, 2019	EP3749751	Dec 16, 2020			
1006-JP-1	JP	JSR / Kuzuwa				Pending	2020-54311	Feb 8, 2019	JP2021512638	May 20, 2021			
1006-US-1	US	JSR / Kuzuwa P0745.70016US05				Pending	16/968263	Feb 8, 2019	US20220133813	May 5, 2022			

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1006-TW-1	TW	P0745.70016TW00		Honda, Tanoue, Kawakami, Atarashi, Morita, Skelly	Keio University	Pending	108104435	Feb 11, 2019	202003834	Jan 16, 2020			
1007-P-1	US					Expired	62/415,759	Nov 1, 2016					
1007-P-2	US					Expired	62/533,844	Jul 18, 2017					
1007-PCT-1	WO		BACTERIA INDUCING TH1 CELLS	Honda, Atarashi, Narushi, Suda, Hattori	Keio University	National Phase	PCT/JP2017/039522	Nov 1, 2017	WO2018/084172	May 11, 2018			
1007-AU-1	AU	JSR / Kuzuwa				Pending	2017354716	Nov 1, 2017	AU2017354716	May 2, 2019			
1007-CA-1	CA	JSR / Kuzuwa				Pending	3041277	Nov 1, 2017	CA3041277	May 11, 2018			
1007-CN-1	CN	JSR / Kuzuwa				Pending	110352236	Nov 1, 2017	CN110352236	Oct 18, 2019			
1007-EP-1	EP	JSR / Kuzuwa				Pending	17868079	Nov 1, 2017	EP3546566	Oct 2, 2019			
1007-JP-1	JP	JSR / Kuzuwa				Pending	2018549032	Nov 1, 2017					
1007-JP-2	JP	JSR / Kuzuwa				Pending	2022-105966	Jun 30, 2022	JP2022133363	Sep 13, 2022			
1007-US-1	US	JSR / Kuzuwa				Pending		Nov 1, 2017					
1008-P-1	US					Expired	62/533,844	Jul 18, 2017					
1008-PCT-1	WO		ANTI-BACTERIAL COMPOSITION AGAINST TH1 CELL-INDUCING BACTERIA	Honda, Atarashi, Narushi, Suda, Hattori, Furuichi, Kawaguchi, Mitobe	Keio University	National Phase	PCT/JP2018/026922	Jul 18, 2018	WO2019/017389	Jan 24, 2019			
1008-AU-1	AU	JSR / Kuzuwa				Pending	2018302641	Jul 18, 2018	AU2018302641	Feb 6, 2020			
1008-CA-1	CA	JSR / Kuzuwa				Pending	3069567	Jul 18, 2018	CA3069567	Jan 24, 2019			
1008-CN-1	CN	JSR / Kuzuwa				Pending	110891583	Jul 18, 2018	CN110891583	Mar 17, 2020			
1008-EP-1	EP	JSR / Kuzuwa				Pending	18834915	Jul 18, 2018	EP3656389	May 27, 2021			
1008-JP-1	JP	JSR / Kuzuwa				Pending	2019530567	Jul 18, 2018			7109794	Aug 2, 2038	Jul 18, 2038

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												2022	
1008-US-1	US	JSR / Kuzuwa				Pending	16/631,496	Jul 18, 2018	US-2020-0171099	Jun 4, 2020			
1009-P-1	US					Expired	62/815,101	Mar 7, 2019					
1009-PCT-1	WO	JSR / Kuzuwa	ANTIBACTERIAL COMPOSITION AGAINST DRUG-RESISTANT BACTERIUM OR PRO-INFLAMMATORY BACTERIUM	Honda, Yasumi, Atarashi, Narushima, Furuichi	Keio University	Pending	PCT/JP2020/009423	Mar 5, 2020	WO2020179868	Sep 10, 2020			
1009-AU-1	AU	JSR / Kuzuwa				Pending	2020232066	Mar 5, 2020	AU2020232066	Jul 22, 2021			
1009-CA-1	CA	JSR / Kuzuwa				Pending	3125323	Mar 5, 2020	CA3125323	Sep 10, 2020			
1009-CN-1	CN	JSR / Kuzuwa				Pending	202080013258.9	Mar 5, 2020	CN113573780	Oct 29, 2021			
1009-EP-1	EP	JSR / Kuzuwa				Pending	20766492.1	Mar 5, 2020	EP3957367	Feb 23, 2022			
1009-JP-1	JP	JSR / Kuzuwa				Pending	2021503646	Mar 5, 2020		Sep 10, 2020			
1009-TW-1	TW	JSR / Kuzuwa				Pending	109107438	Mar 5, 2020	TW202100172	Jan 1, 2021			



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1009-US-1	US	JSR / Kuzuwa				Pending	17/436/148	Mar 5, 2020	US20220125858	Apr 28, 2022			
1101-P-1	US	P0745.70005US00				Expired	61/235889	Aug 21, 2009					
1101-PCT-1	WO	P0745.70005WO00	METHODS OF DIAGNOSING AND TREATING MICROBIOME-ASSOCIATED DISEASE USING INTERACTION NETWORK PARAMETERS	Olle Behr, Marucci, I. Zohar	Puretech Ventures LLC (now Vedanta Biosciences Inc.)	National Phase	PCT/US10/46184	Aug 20, 2010	WO2011/022660	Feb 24, 2011			
1101-US-1	US	P0745.70005US01				Abandoned	13/391,352	Feb 20, 2012	US-2012-0149584	Jun 14, 2012			
1201-P-1	US	P0745.70006US00		Schneider, Kim, Reddy, Norman, Patarroyo, Olle	Vedanta Biosciences Inc.	Expired	62/349,914	Jun 14, 2016					
1201-PCT-1	WO	P0745.70006WO00	TREATMENT OF CLOSTRIDIUM DIFFICILE INFECTION			National phase	PCT/US2017/37498	Jun 14, 2017	WO2017/218680	Dec 21, 2017			
1201-AU-1	AU	P0745.70006AU00				Pending	2017285211	Jun 14, 2017					
1201-CA-1	CA	P0745.70006CA00				Pending	3027917	Jun 14, 2017					
1201-CN-1	CN	P0745.70006CN00				Pending	201780049780	Jun 14, 2017	CN109562133A	Apr 2, 2019			
1201-EP-1	EP	P0745.70006EP00				Pending	17814024	Jun 14, 2017	EP3468573				
1201-HK-1	HK	P0745.70006HK00				Pending	19131127	Jun 14, 2017					
1201-IN	IN	P0745.7				Pending	2019170015	Jun 14,					

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IN-1		0006IN00				ng	00	2017					
1201-JP-1	JP	P0745.70006JP00				Allowed	2019-518374	Jun 14, 2017	JP2019-517828				
1201-KR-1	KR	P0745.70006KR00				Pending	10-2019-7001044	Jun 14, 2017					
1201-MX-1	MX	P0745.70006MX00				Pending	MX/a/2018/015522	Jun 14, 2017					
1201-US-1	US	P0745.70006US01				Issued	15/630,088	Jun 22, 2017	US-2017-0354697	Dec 14, 2017	9999641	Jun 19, 2018	Jun 14, 2037
1201-US-2	US	P0745.70006US02				Issued	15/884,029	Jan 30, 2018	US-2018-0169157	Jun 21, 2018	10064904	Sept 4, 2018	Jun 14, 2037
1201-US-3	US	P0745.70006US03				Issued	15/993,037	May 30, 2018	US-2018-0264056	Sep 20, 2019	10350250	Jul 16, 2019	Jun 14, 2037
1201-US-4	US	P0745.70006US04				Issued	16/157,640	Oct 11, 2018	US-2019-0030098	Jan 31, 2019	10456431	Oct 29, 2019	Jun 14, 2037
1201-US-5	US	P0745.70006US05				Issued	16/423,487	May 28, 2019	US-2019-02575090	Sep 12, 2019	10555980	Feb 11, 2020	Jun 14, 2037
1201-US-6	US	P0745.70006US06				Pending	16/702,659	Dec 4, 2019	US-2020-0206284	Jul 2, 2020			
1202-P-1	US	P0745.70007US00	COMPOSITIONS OF SPORE FORMING BACTERIAL STRAINS	Caballeró	Vedanta Biosciences Inc.	Expired / No PCT filed	62/378,383	Aug 23, 2016					
1203-P-1	US	P0745.70008US00	METHODS OF MANUFACTURING SPORE FRACTIONS	Conto	Vedanta Biosciences Inc.	Expired / No PCT filed	62/378,374	Aug 23, 2016					
1204-P-1	US	P0745.70009US00				Expired	62/414,489	Oct 28, 2016					
1204-PCT-1	US	P0745.70009WO00	METHODS AND COMPOSITIONS FOR PRESERVING BACTERIA	Couto, Shilpa, Michonski, Ulrich	Vedanta Biosciences Inc.	National phase	PCT/US2017/058746	Oct 27, 2017	WO2018/081550	May 3, 2018			
1204-AU-1	AU	P0745.70009AU00				Pending	2017347870	Oct 27, 2017					

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1204-CA-1	CA	P0745.70009CA00				Pending	3041677	Oct 27, 2017					
1204-EP-1	EP	P0745.70009EP00				Pending	17863799	Oct 27, 2017	EP3532644				
1204-JP-1	JP	P0745.70009JP00				Issued	2019-523835	Oct 27, 2017	JP2019532665	Nov 14, 2019	7105768	July 14, 2022	October 27, 2037
1204-US-1	US	P0745.70009US01				Issued	16/341,583	Oct 27, 2017	US-2020-0002664	Jan 2, 2020	11,447,738	Sep 20, 2022	October 27, 2037
1204-US-2	US	P0745.70009US02				Pending	17/822,860	Aug 29, 2022					
1205-P-1	US	P0745.70010US00				Expired	62/435,244	Dec 16, 2016					
1205-PCT-1	WO	P0745.70010WO00	METHODS AND COMPOSITIONS FOR DETERMINING BACTERIAL INTEGRITY	Schwedock, Confo, Michon, Li, Nade	Vedanta Biosciences Inc.	Nat Phase	PCT/US17/66726	Dec 15, 2017	WO2018/12171	Jan 21, 2018			
1205-EP-1	EP	P0745.70010EP00				Abandoned	17860347	Dec 15, 2017	EP3554326				
1205-JP-1	JP	P0745.70010JP00				Abandoned	2019-432745	Dec 15, 2017	P2020-501570				
1205-EP-1	US	P0745.70010US01				Abandoned	16/469,742	Dec 15, 2017	US-2020-0061133	Feb 27, 2020			
1206-P-1	US	P0745.70013US00				Expired	62/583,777	Nov 9, 2017					
1206-P-2	US	P0745.70013US01				Expired	62/637,355	Mar 1, 2018					
1206-P-3	US	P0745.70013US02				Expired	62/721,786	Aug 23, 2018					
1206-PCT-1	WO	P0745.70013WO00	METHODS AND COMPOSITIONS FOR THE TREATMENT OF FOOD ALLERGY	Szabady, Olle, Roberts	Vedanta Biosciences Inc.	National Phase	PCT/US2018/060187	Nov 9, 2018	WO2019/094837	May 16, 2019			
1206-AU-1	AU	P0745.70013AU00				Pending	2018365071	Nov 9, 2018					
1206-CA-1	CA	P0745.70013CA				Pending	3081978	Nov 8, 2018					

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		00											
1206-CN-1	CN	P0745.7 0013CN 00				Pending	CN2019109 14490	Nov 9, 2018					
1206-EP-1	EP	P0745.7 0013EP0 0				Pending	18875281	Nov 9, 2018	3706767	Sep 16, 2020			
1206-JP-1	JP	P0745.7 0013JP0 0				Pending	2020- 526142	Nov 9, 2018					
1206-US-1	US	P0745.7 0013US 03				Issued	16/229,288	Dec 21, 2018	US2019- 0134107	May 9, 2019	1050722 1	Dec 17, 2019	Nov 9, 2038
1206-US-2	US	P0745.7 0013US 04				Issued	16/669,596	Oct 31, 2019	US2020- 0171101	Jun 4, 2020	1100055 6	5/11/2 021	Nov 9, 2038
1206-US-3	US	P0745.7 0013US 05	COMPOSITIONS AND METHODS FOR THE TREATMENT OF ALLERGY			Pending	US 17/234,158	Apr 19, 2021	US 2022- 0054556	Feb 24, 2022			
1206-US-7	US	P0745.7 0013US 05				Pending	US	Apr 19, 2021	US 2022- 0054556	Feb 24, 2022			
1207-P-1	US	P0745.7 0014US 00				Expired	62/596,988	Dec 11, 2017					
1207-P-2	US	P0745.7 0014US 01				Expired	62/616,394	Jan 11, 2018					
1207-P-3	US	P0745.7 0014US 02				Expired	62/626,908	Feb 6, 2018					
1207-P-4	US	P0745.7 0014US 03				Expired	62/643,554	Mar 15, 2018					
1207-P-5	US	P0745.7 0014US 04				Expired	62/703,917	Jul 27, 2018					
1207-P-6	US	P0745.7 0014US 05				Expired	62/769,461	Nov 19, 2018					
1207-PCT-1	WO	P0745.7 0014WO 00	COMPOSITIONS AND METHODS FOR SUPPRESSING PATHOGENIC ORGANISMS	Caballero, Felix	Vedanta Biosciences Inc.	National Phase	PCT/US2018/065031	Dec 11, 2018	WO2019/18515	Jun 20, 2019			
1207-EP-1	EP	P0745.7 0014EP0 0				Pending	1889123.8	Dec 11, 2018	EP3723776	Oct 21, 2020			
1207-US-1	US	P0745.7 0014US				Pending	16/771,075	Dec 11,	US-2020- 0405775-	31-Dec- 20			

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		06						2018	A1				
1208-P-1	US	P0745.70012US00			Vedanta Biosciences Inc.	Expired	62/618,869	Jan 18, 2018					
1208-PCT-1	WO	P0745.70012WO00	COMPOSITIONS AND METHODS FOR THE TREATMENT OF CANCER	Olle	Vedanta Biosciences Inc.	National Phase	PCT/US2019/01420	Jan 18, 2019	WO2019/143883	Jul 25, 2019			
1208-US-1	US	P0745.70012US01				Pending	16/962,274	Jan 18, 2019					
1209-P-1	US	P0745.70015US00	METHODS FOR SELECTING OPTIMAL BACTERIAL CONSORTIA FOR IMMUNE SYSTEM MANIPULATION	Olle, Buccell, Stein	Vedanta Biosciences Inc., University of Massachusetts Dana Farber Cancer Institute Inc.,	Expired - No PCT filed	62/632,542	Feb 20, 2018					
1209-P-2	US	P0745.70015US01	METHODS FOR SELECTING OPTIMAL BACTERIAL CONSORTIA FOR IMMUNE SYSTEM MANIPULATION	Olle, Buccell, Stein	Vedanta Biosciences Inc., University of Massachusetts Dana Farber Cancer Institute Inc.,	Expired - No PCT filed	62/632,453	Apr 4, 2018					
1210-P-1	US	P0745.70017US00	METHODS OF DECREASING DYSBIOSIS AND RESTORING MICROBIOME		Vedanta Biosciences Inc.	Expired	62/765,165	Aug 17, 2018					

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1210-P-2	US	P0745.7 0017US 01	METHODS OF DECREASING DYSBIOSIS AND RESTORING MICROBIOME		Vedanta Biosciences Inc.	Expired	62/815,395	Mar 8, 2019					
1210-P-3	US	P0745.7 0017US 02	METHODS OF DECREASING DYSBIOSIS AND RESTORING MICROBIOME		Vedanta Biosciences Inc.	Expired	62/589,513	Apr 4, 2019					
1210-P-4	US	P0745.7 0017US 03	METHODS OF DECREASING DYSBIOSIS AND RESTORING MICROBIOME		Vedanta Biosciences Inc.	Expired	62/829,959	Apr 5, 2019					
1210-AU-1	AU	P0745.7 0017AU 00			Vedanta Biosciences Inc.	Pending	2019321681	Aug 16, 2019					
1210-CN-1	CN	P0745.7 0017CN 00			Vedanta Biosciences Inc.	Published	2019800683 41.3	Aug 16, 2019	CN1128884 47A	1-Jun-21			
1210-EP-1	EP	P0745.7 0017EP 00			Vedanta Biosciences Inc.	Published	19849346.2	Aug 16, 2019	3836946	23-Jun-21			
1210-IL-1	IL	P0745.7 0017IL 00			Vedanta Biosciences Inc.	Pending	280779	Aug 16, 2019					
1210-IN-1	IN	P0745.7 0017IN 00			Vedanta Biosciences Inc.	Published	2021170105 26	Aug 16, 2019		23-Apr-21			
1210-JP-1	JP	P0745.7 0017JP 00			Vedanta Biosciences Inc.	Pending		Aug 16, 2019					
1210-KR-1	KR	P0745.7 0017KR 00			Vedanta Biosciences Inc.	Pending	10-2021- 7007593	Aug 16, 2019					
1210-US-1	US	P0745.7 0017US 04			Vedanta Biosciences Inc.	Pending	17/268781	Aug 16, 2019					
1210-PCT-1	WO	P0745.7 0017WO 00	METHODS OF DECREASING DYSBIOSIS AND RESTORING MICROBIOME	Norman, Olle, Roberts,	Vedanta Biosciences Inc.	National Phase	PCT/US201 9/0846926	Aug 16, 2019	WO2020/0 37271	20 Feb, 2020			

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
			SING DYSBIOSIS AND RESTORING MICROBIOME	Menon	Inc.								
1211-P-1	US	P0745.70018US00	METHODS FOR ASSESSING COLONIZATION OF A MICROBIOME	Norman	Vedanta Biosciences Inc.	Expired	62/724,185	Aug 29, 2018					
1212-P-1	US	P0745.70019US00	METHODS FOR TREATING MALNUTRITION	Caballero	Vedanta Biosciences Inc.	Expired - No PCT filed	62/831,481	Apr 9, 2019					
1213-P-1	US	P0745.70020US00	COMPOSITIONS AND METHODS FOR SUPPRESSING PATHOGENIC ORGANISMS	Caballero	Vedanta Biosciences Inc.	Expired	62/884,917	Aug 9, 2019					
1213-P-2	US	P0745.70020US01				Expired	62/901,206	Sep 16, 2019					
1213-P-3	US	P0745.70020US02				Expired	62/947,517	Dec 12, 2019					
1213-P-4	US	P0745.70020US03				Expired	63/031,299	May 28, 2020					
1213-PCT-1	WO	P0745.70020WO00	COMPOSITIONS AND METHODS FOR SUPPRESSING PATHOGENIC ORGANISMS	Caballero, Felix, Heberling, Kourepinos, Tomich	Vedanta Biosciences Inc.	National Phase	PCT/US2020/045442	Aug 7, 2020	WO2021/030198	18-Feb-21			
1213-CN-1	CN	P0745.70020CN00				Pending	202080070802.3	Aug 7, 2020	CN114502183	May 13, 2022			

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
1213-EP-1	EP	P0745.70020EP00				Pending	20852623.6	Aug 7, 2020	EP4010013	Jun 15, 2022			
1213-JP-1	JP	P0745.70020JP00				Pending	2022-508590	Aug 7, 2020	JP2022508590	Oct 18, 2022			
1213-US-1	US	P0745.70020US04				Pending	17/633930	Aug 7, 2020					
1214-P-1	US	P0745.70021US00	METHODS AND COMPOSITIONS FOR PRESERVING BACTERIA	Michonki	Vedanta Biosciences Inc.	Expired	62/901,205	Sep 16, 2019					
1214-PCT-1	WO	P0745.70021WO00	METHODS AND COMPOSITIONS FOR PRESERVING BACTERIA	Michonki	Vedanta Biosciences Inc.	Pending	PCT/US2020/050868	Sep 15, 2020	WO2021-055352	25-Mar-21			
1214-AU-1	AU	P0745.70021AU00				Pending	2020350573	Sep 15, 2020	AU2020350573	Apr 7, 2022			
1214-CA-1	CA	P0745.70021CA00				Pending	3151326	Sep 15, 2020	CA3151326	Mar 25, 2021			
1214-CN-1	CN	P0745.70021CN00				Pending	202080075032.1	Sep 15, 2020	CN114980910	Aug 30, 2022			
1214-EP-1	EP	P0745.70021EP00				Pending	20866071.2	Sep 15, 2020	EP4031154	Jul 27, 2022			
1214-US-1	US	P0745.70021US01				Pending	17/760674	Sep 15, 2020					
1215-P-1	US	P0745.70022US00	METHODS AND COMPOSITIONS FOR ADMINISTERING BIOTHERAPEUTIC PRODUCTS	Conto	Vedanta Biosciences Inc.	Abandoned	62/901,209	Sep 16, 2019					



Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
1215-P-2	US	P0745.7 0022US 01	METHODS AND COMPOSITIONS FOR ADMINISTERING BIOTHERAPEUTIC PRODUCTS	Couto	Vedanta Biosciences Inc.	Pending	63/081,045	Sep 21, 2020					
1216-P-1	US	P0745.7 0023US 00	COMPOSITIONS AND METHODS FOR ENHANCING IMMUNE CHECKPOINT INHIBITOR THERAPY	Szabady and Roberts	Vedanta Biosciences Inc.	Expired	62/930,456	Nov 4, 2019					
1216-P-2	US	P0745.7 0023US 01	COMPOSITIONS AND METHODS FOR ENHANCING IMMUNE CHECKPOINT INHIBITOR THERAPY	Szabady and Roberts	Vedanta Biosciences Inc.	Expired	63/014,829	Apr 24, 2020					
1216-PCT-1	WO	P0745.7 0023WO 00	COMPOSITIONS AND METHODS FOR ENHANCING IMMUNE CHECKPOINT INHIBITOR THERAPY	Szabady and Roberts	Vedanta Biosciences Inc.	National Phase	PCT/US2020/058840	Nov 4, 2020	WO2021/091981	14-May-21			
1216-EP-1	EP	P0745.7 0023EP 00				Pending	20883838.3	Nov 4, 2020	EP4054609	Sep 14, 2022			

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
1216-US-1	US	P0745.70023US02				Pending	17/773863	Nov 4, 2020					
1217-P-1	US	P0745.70024	COMPOSITIONS FOR PRESERVING BACTERIA AND METHODS OF USE		Vedanta Biosciences Inc.	Expired	63/165513	3/24/2021					
1217-P-2	US	P0745.70024US01	COMPOSITIONS FOR PRESERVING BACTERIA AND METHODS OF USE		Vedanta Biosciences, Inc.	Pending	63/323,784	3/25/2022					
1218-P-1	US	P0745.70025	COMPOSITIONS AND METHODS FOR TREATING HEPATIC ENCEPHALOPATHY		Vedanta Biosciences Inc.	Expired	63/140187	1/21/2022					
1218-PCT-1	WO	P0745.70025WO00	COMPOSITIONS AND METHODS FOR TREATING HEPATIC ENCEPHALOPATHY		Vedanta Biosciences, Inc.	Pending	PCT/US2022/013322	1/21/2022	WO2022159711	Jul 28, 2022			
1219-P-1	US	P0745.70026US00	COMPOSITIONS AND METHODS FOR SUPPRESSING PATHOGENIC ORGANISMS		Vedanta Biosciences Inc.	Expired	63/151003	2/18/2021					

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
1219-PCT-1	WO	P0745.70026WO00	COMPOSITIONS AND METHODS FOR SUPPRESSING PATHOGENIC ORGANISMS			Pending	PCT/US2022/017043	2/18/2022	WO2022178292	Aug 25, 2022			
1220-P-1	US	P0745.70028US00	COMPOSITIONS AND METHODS FOR TREATING GASTRIC CANCER		Vedanta Biosciences Inc.	Expired	63/170903	4/5/2021					
1220-PCT-1	WO	P0745.70028WO00	COMPOSITIONS AND METHODS FOR TREATING GASTRIC CANCER			Pending	PCT/US2022/023427	4/5/2022	WO2022216670	Oct 13, 2022			
1221-P-1	US	P0745.70030US00	METHODS OF COLONIZING A MICROBIOME, TREATING AND/OR PREVENTING INFLAMMATORY BOWEL DISEASE AND GRAFT VERSUS HOST DISEASE	Crossett, Olle	Vedanta Biosciences, Inc.	Expired	63/215,954	6/28/2021					
1221-PCT-1	WO	P0745.70030WO00	METHODS OF COLONIZING A MICROBIOME, TREATING AND/OR			Pending	PCT/US2022/035356	6/28/2022					

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
			PREVENTING INFLAMMATORY BOWEL DISEASE AND GRAFT VERSUS HOST DISEASE										
1301-P-1	US		COMPOSITIONS AND METHODS FOR TREATING AND PREVENTING GRAFT VERSUS HOST DISEASE	Reddy	The Regents of The University of Michigan	Expired	62/308,603	Mar 15, 2016					
1301-PCT-1	WO	UM-34807/WO-1/ORD (Casimir Jones)	COMPOSITIONS AND METHODS FOR TREATING AND PREVENTING GRAFT VERSUS HOST DISEASE	Reddy	The Regents of The University of Michigan	National Phase	PCT/US17/22456	Mar 15, 2017	WO2017/160944	Sep 21, 2017			
1301-US-1	US	UM-34807/US-2/PCT (Casimir Jones)	COMPOSITIONS AND METHODS FOR TREATING AND PREVENTING GRAFT VERSUS HOST DISEASE	Reddy	The Regents of The University of Michigan	Issued	US 16/085,090	Sep 14, 2018	US-2019-0381116	Dec 19, 2019	11,260,083	Mar 1, 2022	Jun 12, 2037 (+89 days PTA)
1501-P-1	EP	Gevers & Ores (Paris)	METHOD FOR DETERMINING THE POTENTIAL EFFICACY OF ANTICANCER	Carbannel	Assistance Publique - Hopital de Paris et al.	Expired	EP 17305327	Mar 22, 2017					

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
			TREATMENT										
1501-PCT-1	WO	Gevers & Ores (Paris)	METHOD FOR DETERMINING THE POTENTIAL EFFICACY OF ANTICANCER TREATMENT	Carbannel	Assistance Publique - Hopital de Paris et al.	National Phase	PCT/EP2018/057361	Mar 22, 2018	WO2018/172483	Sep 27, 2018			
1501-EP-1	EP	Gevers & Ores (Paris)	METHOD FOR DETERMINING THE POTENTIAL EFFICACY OF ANTICANCER TREATMENT	Carbannel	Assistance Publique - Hopital de Paris et al.	Abandoned	18711382	Mar 22, 2018	EP3601614				
1501-JP-1	JP	Gevers & Ores (Paris)	METHOD FOR DETERMINING THE POTENTIAL EFFICACY OF ANTICANCER TREATMENT	Carbannel	Assistance Publique - Hopital de Paris et al.	Abandoned	2019-548421	Mar 22, 2018					
1501-US-1	US	Gevers & Ores (Paris)	METHOD FOR DETERMINING THE POTENTIAL EFFICACY OF ANTICANCER TREATMENT	Carbannel	Assistance Publique - Hopital de Paris et al.	Abandoned	16/494,095	Mar 22, 2018	US-2020-0129566	Apr 30, 2020			
1601-US-1	US	Johnson & Johnson	OPTIMIZED CULTURE MEDIA FOR		Johnson & Johnson	Expired	62/887,788	Aug 16, 2019					

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
			CLOSTRIDIA BACTERIA										
1601-US-2	US	Johnson & Johnson	OPTIMIZED CULTURE MEDIA FOR CLOSTRIDIA BACTERIA		Johnson & Johnson	Expired	62/887,790	Aug 16, 2019					
1601-US-3	US	Johnson & Johnson	OPTIMIZED CULTURE MEDIA FOR CLOSTRIDIA BACTERIA		Johnson & Johnson	Expired	62/887,793	Aug 16, 2019					
1601-PCT-1	WO	Johnson & Johnson	OPTIMIZED CULTURE MEDIA FOR CLOSTRIDIA BACTERIA		Johnson & Johnson	Pending							
1601-PCT-2	WO	Johnson & Johnson	OPTIMIZED CULTURE MEDIA FOR CLOSTRIDIA BACTERIA		Johnson & Johnson	Pending							
1601-PCT-3	WO	Johnson & Johnson	OPTIMIZED CULTURE MEDIA FOR CLOSTRIDIA BACTERIA		Johnson & Johnson	Pending							

EXHIBIT C

Trademarks

Ref No.	Country	WGS No.	Title	Inventors	Applicant/Assignee	Status	Serial No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date
EP Opposition 1		Hoffman & Eitle			4D Pharma	Pending	EP3209309	Dec 14, 2018					
EP Opposition 2		Hoffman & Eitle			4D Pharma	Pending	EP3209381	Aug 14, 2019					
EP Opposition 3		Hoffman & Eitle			4D Pharma	Pending	EP3240554	Apr 30, 2020					
T900 0-WP-1		P0745.2 0000WP00	Vedanta Biosciences (block)	Class 5 & 42	Vedanta Biosciences	Registered	A0059889	Jun 29, 2016					
T900 0-EP-1		P0745.2 0000EM00	Vedanta Biosciences (block)	Class 5 & 42	Vedanta Biosciences	Registered	1307539	Jun 29, 2016					
T900 0-JP-1		P0745.2 0000JP00	Vedanta Biosciences (block)	Class 5 & 42	Vedanta Biosciences	Registered	1307539	Jun 29, 2016					
T900 0-US-1		P0745.2 0000US00	Vedanta Biosciences (block)	Class 5 & 42	Vedanta Biosciences	Registered	1307539	Jun 29, 2016	6019119	24 Mar, 2020			
T900 1-WP-1		P0745.2 0001WP00	V (Miscellaneous Design)	Class 5 & 42	Vedanta Biosciences	Registered	A0059890	Jun 29, 2016					
T900 1-EP-1		P0745.2 0001EM00	V (Miscellaneous Design)	Class 5 & 42	Vedanta Biosciences	Registered	1460992	Jun 29, 2016					
T900 1-US-1		P0745.2 0001US00	V (Miscellaneous Design)	Class 5 & 42	Vedanta Biosciences	Registered	1460992	Jun 29, 2016	6019120	24 Mar, 2020			
T900 1-JP-1		P0745.2 0001JP00	V (Miscellaneous Design)	Class 5 & 42	Vedanta Biosciences	Registered	1460992	Jun 29, 2016					

EXHIBIT D

Mask Works

None.