

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

ETAS ID: TM513812

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
Longhorn Vaccines and Diagnostics, LLC		03/08/2019	Limited Liability Company: DELAWARE
RECEIVING PARTY DATA			
Name:	MidCap Financial Trust, as Agent		
Street Address:	7255 Woodmont Avenue, Suite 200		
City:	Bethesda		
State/Country:	MARYLAND		
Postal Code:	20814		
Entity Type:	Statutory Trust: DELAWARE		
PROPERTY NUMBERS Total: 13			
Property Type	Number	Word Mark	
Registration Number:	3939755	PRIMESTORE	
Registration Number:	4063971	PRIMESTOREMTM	
Serial Number:	77940239	PRIMESTORE MOLECULAR TRANSPORT MEDIA	
Registration Number:	3895397	PRIMEMIX	
Registration Number:	4700277	PRIMESEQUENCE	
Registration Number:	4712916	LONGHORN PRIMESEQUENCE	
Registration Number:	4529388	PRIMESEQ	
Registration Number:	4529646	PRIMEXTRACT	
Registration Number:	4648521	PRIMESWAB	
Registration Number:	4734696	PRIMESUITE	
Registration Number:	4735378	PRIME PCR	
Registration Number:	4735383	PRIME PCR SYSTEM	
Registration Number:	4727798	PRIMEMIX PCR SYSTEM	
CORRESPONDENCE DATA			
Fax Number:	7036106200		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>			
Phone:	7036106100		
Email:	BoxIP@hoganlovells.com, valerie.brennan@hoganlovells.com		
TRADEMARK			

CH \$340.00 3939755

Correspondent Name: Valerie Brennan
Address Line 1: Attn: Box Intellectual Property
Address Line 2: 7930 Jones Branch Drive, 9th FL
Address Line 4: McLean, VIRGINIA 22102

ATTORNEY DOCKET NUMBER: 036639-89

NAME OF SUBMITTER: Valerie Brennan of Hogan Lovells US LLP

SIGNATURE: /vb/

DATE SIGNED: 03/12/2019

Total Attachments: 55

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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of the 8th day of March, 2019 by and among **MIDCAP FINANCIAL TRUST**, a Delaware statutory trust (in such capacity, together with its successors and assigns, "Agent") and **LONGHORN VACCINES AND DIAGNOSTICS, LLC**, a Delaware limited liability company (together with any other Person that joins this agreement as a Grantor, each a "Grantor" and collectively, the "Grantors").

RECITALS

A. The Lenders have agreed to make certain advances of money and to extend certain financial accommodation to the Grantors (the "Credit Extensions") in the amounts and manner set forth in that certain Credit, Guaranty and Security Agreement, by and between Agent, the Lenders, the Grantor, the other Borrowers (as defined therein) and the Guarantors (as defined therein) dated as of the date hereof (as the same may be amended, modified or supplemented from time to time, the "Credit Agreement"; capitalized terms used herein are used as defined in the Credit Agreement). The Lenders are willing to make the Credit Extensions to the Grantors, but only upon the condition, among others, that the Grantors shall grant to Agent, for the ratable benefit of the Lenders, a security interest in certain Copyrights, Trademarks, Patents, and Mask Works (as each term is described below) to secure the obligations of the Grantors under the Credit Agreement.

B. Pursuant to the terms of the Credit Agreement, each Grantor has granted to Agent, for the ratable benefit of the Lenders, a security interest in all of such Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the 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 Credit Agreement, each Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure its obligations under the Credit Agreement, each Grantor grants and pledges to Agent, for the ratable benefit of the Lenders, a security interest in all of such 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, as such Exhibit may be amended, modified or supplemented from time to time (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 such Grantor now or hereafter existing, created, acquired or held;

(d) Any and 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, as such Exhibit may be amended, modified or supplemented from time to time (collectively, the "Patents");

(e) Any and all 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 such Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto, as such Exhibit may be amended, modified or supplemented from time to time (collectively, the "Trademarks");

(f) Any and all mask works or similar rights available for the protection of semiconductor chips, now owned or hereafter acquired, including, without limitation those set forth on Exhibit D attached hereto, as such Exhibit may be amended, modified or supplemented from time to time (collectively, the "Mask Works");

(g) 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;

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

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

(j) 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.

This security interest is granted in conjunction with the security interest granted to Agent, for the ratable benefit of the Lenders, under the Credit Agreement. The rights and remedies of Agent with respect to the security interest granted hereby are in addition to those set forth in the Credit Agreement and the other Financing Documents, and those which are now or hereafter available to Agent as a matter of law or equity. Each right, power and remedy of Agent provided for herein or in the Credit Agreement or any of the Financing 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 Agent of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Credit Agreement or any of the other Financing Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Agent, of any or all other rights, powers or remedies.

THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT AND ALL DISPUTES AND OTHER MATTERS RELATING HERETO OR THERETO OR ARISING THEREFROM (WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE), SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF MARYLAND, WITHOUT REGARD TO CONFLICTS OF LAWS PRINCIPLES.

EACH GRANTOR AND AGENT HEREBY IRREVOCABLY WAIVE ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT AND AGREES THAT ANY SUCH ACTION OR PROCEEDING SHALL BE TRIED BEFORE A COURT AND NOT

BEFORE A JURY. EACH GRANTOR AND AGENT ACKNOWLEDGES THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS RELIED ON THE WAIVER IN ENTERING INTO THIS AGREEMENT, AND THAT EACH WILL CONTINUE TO RELY ON THIS WAIVER IN THEIR RELATED FUTURE DEALINGS. EACH GRANTOR AND AGENT WARRANTS AND REPRESENTS THAT IT HAS HAD THE OPPORTUNITY OF REVIEWING THIS JURY WAIVER WITH LEGAL COUNSEL, AND THAT IT KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS.

This Intellectual Property Security Agreement may be signed in any number of counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same instrument. Delivery of an executed counterpart of this Intellectual Property Security Agreement by facsimile or by electronic mail delivery of an electronic version (e.g., .pdf or .tif file) of an executed signature page shall be effective as delivery of an original executed counterpart hereof and shall bind the parties hereto.

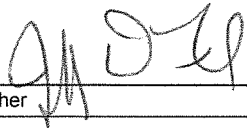
The provisions of the Credit Agreement regarding choice of law, jurisdiction, and venue are incorporated herein and shall govern this Intellectual Property Security Agreement. This Intellectual Property Security Agreement shall inure to the benefit of Agent, the Lenders and their respective successors and assigns, and shall be binding upon each Grantor and its successors and assigns.

[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.

GRANTORS:

**LONGHORN VACCINES AND
DIAGNOSTICS, LLC**

By:  (SEAL)
Name: Jeff Fischer
Title: President

Address:

2 Bethesda Metro Center Suite 910

Bethesda MD 20814

Attn: Jeff Fischer

Facsimile:

E-Mail: jeff@lhnvd.com

AGENT:

MIDCAP FINANCIAL TRUST

By: Apollo Capital Management, L.P.,
its investment manager

By: Apollo Capital Management GP, LLC,
its general partner

By:  (SEAL)
Name: Maurice Amsellem
Title: Authorized Signatory

EXHIBIT A

Copyrights

None.

EXHIBIT B

Patents

Patents (As of February 1, 2019)

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.001	General Representation						
3022.002.US United States	Biological Organism Identification Product and Method	Abandoned	11/844,933 (60/843,711) US		08/24/07 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.002.PCT International	Biological Organism Identification Product and Method	National stage applications filed AU, CA, EP, IN, IL, NZ, TW and ZA	PCT/US07/79463 International		08/24/07 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.002.AU Australia	Biological Organism Identification Product and Method	Annuity due every Sept 12 th	2007338604 Australia	AU 2007338604 06/21/2012	02/12/09 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.002.CA Canada	Biological Organism Identification Product and Method	Abandoned	2,661,881 Canada		2/25/09 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.002.EP Europe	Biological Organism Identification Product and Method	Abandoned	07872290.7 Europe		04/07/09 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.002.IN India	Biological Organism Identification Product and Method	Abandoned	886/CHIENP/2009 India		08/24/07 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.002.IL Israel	Biological Organism Identification Product and Method	All annuities paid	197/139 Israel	IL 197139 07/31/2014	2/19/09 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.002.NZ New Zealand	Biological Organism Identification Product and Method	All annuities paid	574874 New Zealand	NZ 574874 11/05/2012	08/24/07 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.002.TW Taiwan	Biological Organism Identification Product and Method	Abandoned in favor of divisional	096134063 Taiwan		9/7/07 (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.002.TWDV Taiwan	Biological Organism Identification Product and Method	Annuities due yearly (small entity)	096134063 Taiwan	TW/ISO2071 10/01/15		G.W. Fischer L.T. Daum	Longhorn
3022.002.TWDV2 Taiwan	Biological Organism Identification Product and Method	Annuities paid 2018-2023; due yearly thereafter	104121208 Taiwan	TW/ISO1217 08/01/2018		G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.002.ZA South Africa	Biological Organism Identification Product and Method	All annuities paid	2009/01049 South Africa	ZA 2009-01049 06/30/10	12/13/09 (9/10/07)	G.W. Fischer L.T. Daum	Longhorn
3022.003.US United States	Biological Specimen Collection and Transport System and Method of Use	Maintenance fee due 06/27/2023	12/243,949 (60/976,728) US	US 8,984,443 12/27/2011	10/01/08 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.003.USCN United States	Biological Specimen Collection and Transport System and Method of Use	Maintenance fee due 04/23/2020	13/332,204 US	US 8,293,467 10/23/2012	12/20/2011	G.W. Fischer L.T. Daum	Longhorn
3022.003.USCNO 2 United States	Biological Specimen Collection and Transport System and Method of Use	Maintenance fee due 10/09/2020	13/632,272 (13/332,204) (12/243,949) (60/976,728) US	US 8,415,330 04/09/2013	10/01/2012 (12/20/2011) (10/01/08) (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.003.USCNO 3 United States	Biological Specimen Collection and Transport System and Method of Use	Maintenance fee due 09/11/2021	13/847,202 (13/632,272) (13/332,204) (12/243,949) (60/976,728) US	US 8,847,202 03/11/2014	03/19/2013 (10/01/2012) (12/20/2011) (10/01/08) (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.003.USCNO 4 United States	Biological Specimen Collection and Transport System and Method of Use	Maintenance fee due 06/15/2022	14/149,278 (13/847,202) (13/632,272) (13/332,204) (12/243,949) (60/976,728)	US 9,212,388 12/16/2015	01/07/2014 (03/19/2013) (10/01/2012) (12/20/2011) (10/01/08) (10/01/07)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.003.USCNO 5 United States	Biological Specimen Collection and Transport System and Method of Use	Maintenance fee due 12/20/2020; Continuation?	14/969,339 (13/328,992) (12/426,890) (12/243,949) (60/976,728) US	US 9,683,256 06/20/2017	12/15/2015 (12/16/2011) (04/20/09) (10/01/08) (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.003.USCNO 6 United States	Biological Specimen Collection and Transport System and Method of Use	Petition to revive filed 06/05/2018; For functional claims with Ct scores	15/626,693 14/969,339 (13/328,992) (12/426,890) (12/243,949) (60/976,728) US		06/19/2017 12/15/2015 (12/16/2011) (04/20/09) (10/01/08) (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.003.PCT International	Biological Specimen Collection and Transport System and Method of Use	National stage applications filed AU, CA, EP, IN, IL, NZ, and ZA	PCT/US08/78499 International		10/01/08 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.003.AU Australia	Biological Specimen Collection and Transport System and Method of Use	Renewal fee due every Oct. 1st	2008343745 Australia	AU 2008343745 08/23/2012	4/19/10 (10/1/08)	G.W. Fischer L.T. Daum	Longhorn
3022.003.AUDV Australia	Biological Specimen Collection and Transport System and Method of Use	Renewal fee due every Oct. 1st	2012211365 Australia	AU 2012211365 04/24/2014	(4/19/10) (10/1/08)	G.W. Fischer L.T. Daum	Longhorn
3022.003.CA Canada	Biological Specimen Collection and	Abandoned in favor of divisional	2701168 Canada		3/29/10 (10/1/08)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
	Transport System and Method of Use	(003.CADV)					
3022.003.CADV Canada	Biological Specimen Collection and Transport System and Method of Use	Annuity due yearly	2,861,667 Canada	CA 2,861,667 06/13/2017	09/04/2014 (3/29/10) (10/1/08)	G.W. Fischer L.T. Daum	Longhorn
3022.003.EP Europe	Biological Specimen Collection and Transport System and Method of Use	Validated in BE, DK, FI, FR, DE, IE, IT, SE, CH, NL, TR, GB; Turkish; Annuities due October 1st	08866356.2 Europe	EP 2193466 10/10/2012	3/30/10 (10/1/08)	G.W. Fischer L.T. Daum	Longhorn
3022.003.EPDV Europe	Biological Specimen Collection and Transport System and Method of Use	Validated in BE, DK, FI, FR, DE, IE, IT, SE, CH, NL, TR, GB plus NO, GR, ES and IS; Annuities due October 1st	12180376.1 Europe	EP 2535428 09/09/2015	3/30/10 (10/1/08)	G.W. Fischer L.T. Daum	Longhorn
3022.003.EPDV 2 Europe	Biological Specimen Collection and Transport System and Method of Use	Abandoned	15184002.2 Europe		09/09/2015 (3/30/10) (10/1/08)	G.W. Fischer L.T. Daum	Longhorn
3022.003.IN India	Biological Specimen Collection and	Annuities due yearly Form 27	2093/DELNP/2010 India	IN 287863 09/28/2017	3/25/10 (10/1/08)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNEE
	Transport System and Method of Use	submitted 03/14/2018					
3022.003.IL Israel	Biological Specimen Collection and Transport System and Method of Use	All annuities paid	204756 Israel	IL 204756 09/29/2012	3/25/10 (10/1/08)	G.W. Fischer L.T. Daum	Longhorn
3022.003.NZ New Zealand	Biological Specimen Collection and Transport System and Method of Use	All annuities paid	564308 New Zealand	NZ 564308 08/06/2012	3/25/10 (10/1/08)	G.W. Fischer L.T. Daum	Longhorn
3022.003.ZA South Africa	Biological Specimen Collection and Transport System and Method of Use	Annuity due every Oct 1st	2010/02174 South Africa	ZA 2010/02174 05/25/2011	3/26/10 (10/1/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.US United States	Biological Specimen Collection/Transport Compositions and Methods	Maintenance fee due 06/20/2019	12/426,890 (60/976,728) US	US 8,060,645 12/20/2011	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.USCN United States	Biological Specimen Collection/Transport Compositions and Methods	Maintenance fee due 02/16/2020	13/328,992 US	US 9,416,416 08/16/2016	12/16/2011	G.W. Fischer L.T. Daum	Longhorn
3022.004.PCT International	Biological Specimen Collection/Transport Compositions and	National stage applications filed in AU, CA, CN, EP,	PCT/US10/31761 International		04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
	Methods	IN, JP and ZA					
3022.004.AU Australia	Biological Specimen Collection/Transpor t Compositions and Methods	Issued; Annuity due yearly	2010239385 Australia	AU 2010239385 03/05/2015	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.AUDV Australia	Biological Specimen Collection/Transpor t Compositions and Methods	Issued; Annuity due yearly	2013202291 Australia	AU 2013/202291 02/27/2014	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.AUDV0 2 Australia	Biological Specimen Collection/Transpor t Compositions and Methods	Annuity due yearly	2014250671 Australia	AU 2014/250671 06/15/2017		G.W. Fischer L.T. Daum	Longhorn
3022.004.CA Canada	Biological Specimen Collection/Transpor t Compositions and Methods	Annuity due yearly	2,759,028 Canada	CA 2,759,028 12/01/2015	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.CN China	Biological Specimen Collection/Transpor t Compositions and Methods	Issued Annuity due yearly	201080028416.4 China	CN201080028416.4 12/16/2015	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.EP Europe	Biological Specimen Collection/Transpor t Compositions and Methods	Validated in BE, DK, FI, FR, DE, IE, IT, SE, CH, NL,	10767644.7 Europe	EP 2421993 08/28/2013	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
	Methods	TR, GB; Annuities due April 1st					
3022.004.EPDV Europe	Biological Specimen Collection/Transpor t Compositions and Methods	Validated in BE, DK, FI, FR, DE, IE, IT, SE, CH, NL, TR, GB; Annuities due April 1st	13175959.9 Europe	EP 2674502 03/23/2016	07/22/2013 (04/20/09) (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.IN India	Biological Specimen Collection/Transpor t Compositions and Methods	Annuities due yearly Form 27 submitted 03/14/2018	8043/DELNP/2011 India	IN 262313 04/03/2017	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.INDV India	Biological Specimen Collection/Transpor t Compositions and Methods	Instructions to file with new claims sent 07/27/2016; Updated Form 3 filed 07/07/2018	201618025922 8043/DELNP/2011 India		07/29/2016 (04/20/09) (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.JP Japan	Biological Specimen Collection/Transpor t Compositions and Methods	Annuities due yearly	5442105 Japan	JP 5442105 12/27/2013	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.004.ZA South Africa	Biological Specimen Collection/Transpor t Compositions and Methods	Annuities due yearly	2011/07624 South Africa	ZA2011/07624 12/27/2012	04/20/09 (10/01/07)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.005.US United States	Disposable, Rapid Extraction Apparatus and Methods	Abandoned	12/916,263 US		10/20/2010	L.T. Daum	Longhorn
3022.006.US United States	Compositions and Method for Rapid, Real-Time Detection of Influenza A Virus (H1N1) Swine 2009	Maintenance fee due 07/17/ 2023	12/510,968 (11/844,933) (60/843,711) US	US 8,087,419 01/17/2012	07/28/2009 (08/24/07) (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.006.USCN United States	Compositions and Method for Rapid, Real-Time Detection of Influenza A Virus (H1N1) Swine 2009	Maintenance fee due 01/14/ 2023	13/341,314 (12/510,968) (11/844,933) (60/843,711) US	US 9,080,204 07/14/2015	12/30/2011 (07/28/09) (08/24/07) (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.006.PCT International	Compositions and Method for Rapid, Real-Time Detection of Influenza A Virus (H1N1) Swine 2009	No national Stage applications filed	PCT/US10/43546 (12/510,968) (11/844,933) (60/843,711) International		07/28/2010 (07/28/2009) (08/24/07) (09/12/06)	G.W. Fischer L.T. Daum	Longhorn
3022.007.US United States	Immunogenic Compositions and Methods	Maintenance fee due 03/02/2022; SEO ID Nos. 5,1416,44	12/199,729 (60/968,145) US	US 8,821,885 09/02/2014	08/27/2008 (08/27/2007)	G.W. Fischer L.T. Daum	Longhorn
3022.007.USCN United States	Immunogenic Compositions and Methods	Maintenance fee due 01/12/2020 Seq ID Nos. 1, 2,7,8,11,12,	14/473,605 (12/199,729) (60/968,145) US	US 9,388,220 07/12/2016	08/29/2014 (08/27/2008) (08/27/2007)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNEE
3022.007.USCNO 2 United States	Immunogenic Compositions and Methods	13, 17 Maintenance fee due 004/03/2021; Seq ID Nos. 18, 19, 49, 50, 51, and 52 Continuation filed as 015.USCP	15/205,476 (14/473,605) (12/199,729) (60/968,145) US	US 9,777,045 10/03/2017	07/08/2016 (08/29/2014) (08/27/2008) (08/27/2007)	G.W. Fischer L.T. Daum	Longhorn
3022.007.PCT International	Immunogenic Compositions and Methods	National Stage applications filed in AU, CA, EP (3), IL, IN, RU and ZA	PCT/US10/74521 International		08/27/2008 (08/27/2007)	G.W. Fischer L.T. Daum	Longhorn
3022.007.AU Australia	Immunogenic Compositions and Methods	Annuity due every Aug 27; Seq ID Nos. 1, 11, 16	2008/293504 Australia	AU 2008293504 08/27/2012	2/25/10 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.CA Canada	Immunogenic Compositions and Methods	Instructions to pay grant fee sent 10/30/2018; Seq ID Nos 5, 7 and 44	2,697,373 Canada	Allowed	2/22/10 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.CADV Canada	Immunogenic Compositions and Methods	Awaiting examination; Seq ID Nos 1, 2, 8, 11-19 and 49-52	2,976,814 2,697,373 Canada		09/11/2017 (2/22/10) (8/27/08)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.007.EP Europe	Immunogenic Compositions and Methods	Validated in CH, DE, FR and UK; Annuites due August; Seq ID Nos 1, 11, 16	08828704.0 Europe	EP 2185196 06/11/2014	2/24/10 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.EPDV Europe	Immunogenic Compositions and Methods	Validated in BE, CH, DE, FR, IE, SW and UK; Annuites due August Seq ID Nos 5, 14, 15	14166377.3 Europe	EP 2772267 04/27/2016	04/24/2014 (02/24/10) (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.EPDV2 Europe	Immunogenic Compositions and Methods	Validated in BE, CH, DE, FR, IE, SW and UK Seq ID Nos 7 and 17	16158089.9 Europe	EP 3058954 03/01/2017	03/01/2016 (04/24/2014) (02/24/10) (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.IL Israel	Immunogenic Compositions and Methods	All annuites paid; Seq ID Nos 5, 14, 15, 16, and 44	204137 Israel	IL 204137 05/01/2016	2/24/10 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.IN India	Immunogenic Compositions and Methods	Form 27 submitted 03/14/2018; Annuit due yearly Seq ID Nos 5 and 15	1363/DELNP/2010 India	IN 291856 01/22/2018	2/25/10 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNED
3022.007.INDV1 India	Immunogenic Compositions and Methods	Updated Form 3 filed 12/28/2018; Awaiting examination Seq ID Nos 7 and 11	201718046632 India		12/26/2017 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.INDV2 India	Immunogenic Compositions and Methods	Updated Form 3 filed 12/28/2018; Awaiting examination Seq ID No 44	201718047020 India		12/28/2017 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.RU Russia	Immunogenic Compositions and Methods	Annuity due every Aug 27; Seq ID Nos 5, 7, 44	2010111758/10(016543) Russia	RU 2368034 11/27/2012	2/25/10 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.ZA South Africa	Immunogenic Compositions and Methods	Annuity due yearly	2010/01412 South Africa	ZA 2010/01412 07/25/2012	2/26/10 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.007.ZADV South Africa	Immunogenic Compositions and Methods	Annuity due yearly	2012/03709 South Africa	ZA 2012/03709 06/26/2013	2/26/10 (8/27/08)	G.W. Fischer L.T. Daum	Longhorn
3022.008.US United States	Compositions and Method for Detecting, Identifying and Quantitating Mycobacterial-Specific Nucleic Acid	Maintenance fee due 08/18/2021	13/094,809 (60/976,728) US	US 8,662,762 02/18/2014	04/26/2011 (10/01/2007)	G.W. Fischer L.T. Daum	Longhorn
3022.008.ZA South Africa	Compositions and Method for	Annuities due yearly	2011/05736 South Africa	ZA 2011/05736 03/28/2012	8/4/11 (4/26/11)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
	Detecting, Identifying and Quantitating Mycobacterial- Specific Nucleic Acid						
3022.008.PCT International	Compositions and Methods for Detecting and, Identifying Nucleic Acids	National Stage application filed in AU, CA, CN, EP, IL, IN, JP, RU, US and ZA	PCT/US2012/35253 International		04/26/2012	G.W. Fischer L.T. Daum	Longhorn
3022.008.AU Australia	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Annuity due yearly	2012249648 PCT/US2012/35253 Australia	AU 2012249648 07/30/2015	(04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.CA Canada	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Response to OA filed 07/26/2018	2,832,499 PCT/US2012/35253 Canada		(04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.CN China	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Reexamination unsuccessful; Abandoned	201280031236.0 PCT/US2012/35253 China		(04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.CNDV China	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Request for exam filed, awaiting examination	201810409909.0 201280031236.0 PCT/US2012/35253 China		05/02/2018 (04/26/2012)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.008.EP Europe	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Instructions to pay grant fee sent 10/30/2018; Country validations due 02/19/2019	EP12776509.7 PCT/US2012/35253 Europe	Allowed	EP12776509. 7 (04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.EPDV Europe	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Instructions to file sent 12/11/2018	EP12776509.7 PCT/US2012/35253 Europe		(04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.IL Israel	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Instructions for response to examination report sent 12/09 due 03/28/2019	228971 Israel		10/20/2013 (04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.IN India	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Instructions for response with composition claims filed 08/29/2018; Form 3 sent 02/05/2018	9740/DELNP/2013 PCT/US2012/35253 India		(04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.INDV India	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Draft kit claims sent 11/13/2018	201818046493 9740/DELNP/2013 PCT/US2012/35253 India		12/08/2018 (04/26/2012)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.008.JP Japan	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Abandoned	2014-508562 PCT/US2012/35253 Japan		10/25/2013 (04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.RU Russia	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Annuities due yearly	2013152260 PCT/US2012/35253 Russia	RU 2595421 08/26/2016	(04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.USCP0 ¹ United States	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Abandoned	14/048,875 PCT/US2012/35253 United States		10/08/2013 (04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.USCP0 ² United States	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Maintenance fee due 05/01/2020	14/048,905 PCT/US2012/35253 United States	US 9,481,912 11/01/2016	10/08/2013 (04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.USCP0 ³ United States	PCR Ready Compositions and Methods for Detecting and Identifying Nucleic Acids	Response to OA filed 01/08/2019	15/334,519 14/048,905 PCT/US2012/35253 United States		10/26/2016 10/08/2013 (04/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.008.ZACP South Africa	Compositions and Methods for Detecting and, Identifying Nucleic Acids	Annuities due yearly	2013/07452 PCT/US2012/35253 South Africa	ZA 201307452 08/22/2017	(04/26/2012)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNEE
3022.013.USPR United States	Composit and Method for Collecting, Transporting, and Storing Biological Samples and Microorganisms Contained Therein	Expired and not converted	61/389,516 US		10/4/10	G.W. Fischer L.T. Daum	Longhorn
3022.013.USPR0 2 United States	Compositions and Method for Collecting, Transporting, and Storing Biological Samples	Expired and not converted	61/543,409 US		10/5/11	G.W. Fischer L.T. Daum	NYA
3022.014.US United States	Mobile Treatment, Diagnostic, and Minor Surgery Facility	Maintenance fee due 11/27/2021	13/681,454 61/588,814 61/561,963 US	US 8,733,813 05/27/2014	11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.014.USCN	Mobile Treatment, Diagnostic, and Minor Surgery Facility	Maintenance fee due 10/12/2019	14/272,552 (13/681,454) (61/588,814) (61/561,963) US	US 9,308,141 04/12/2016	05/08/2014 (11/20/2012) (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud J.D. Fischer	Med1 Partners
3022.014.USCNO 2	Mobile Treatment, Diagnostic, and Minor Surgery Facility	Abandoned	15/057,223 (14/272,552) (13/681,454) (61/588,814) (61/561,963) US		03/01/2016 (05/08/2014) (11/20/2012) (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud J.D. Fischer	Med1 Partners
3022.014.TW Taiwan	Mobile Treatment, Diagnostic and	Annuities due yearly	101143561 (61/588,814)	TW 101143561 21 Dec 2015	11/21/2012 (01/20/2012)	T.H. Blackwell;	Med1 Partners

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.014.VE Venezuela	Mobile Treatment, Diagnostic and Minor Surgery Facility	Application published for opposition; awaiting final determination (unlikely to issue in current VE politics)	001484-2012 (61/588,814) (61/561,963) Venezuela		11/21/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.014.PCT International	Mobile Treatment, Diagnostic and Minor Surgery Facility	National Stage applications filed BR, CL, CN, IN, MX, PE and ZA	PCT/US2012/65988 (61/588,814) (61/561,963) International		11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.014.BR Brazil	Mobile Treatment, Diagnostic and Minor Surgery Facility	Awaiting examination	1120140123268 PCT/US2012/65988 (61/588,814) (61/561,963) International		11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.014.CL Chile	Mobile Treatment, Diagnostic and Minor Surgery Facility	Abandoned	2014-01192 PCT/US2012/65988 (61/588,814) (61/561,963) International		11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.014.CN China	Mobile Treatment, Diagnostic and Minor Surgery Facility	Abandoned	201280057283.2 PCT/US2012/65988 (61/588,814) (61/561,963) International		11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.014.IN India	Mobile Treatment, Diagnostic and Minor Surgery Facility	Awaiting examination; Updated Form 3 filed 08/01/2016	888/KOLNP/2014 PCT/US2012/65988 (61/588,814) (61/561,963) International		11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.014.MX Mexico	Mobile Treatment, Diagnostic and Minor Surgery Facility	Annuity due yearly	MX/a/2014/006129 PCT/US2012/65988 (61/588,814) (61/561,963) International	MX/a/2014/006129 10/02/2017	11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.014.PE Peru	Mobile Treatment, Diagnostic and Minor Surgery Facility	No annuities due	712-2014 PCT/US2012/65988 (61/588,814) (61/561,963) International	PE 8838 04/18/2018	11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.014.ZA South Africa	Mobile Treatment, Diagnostic and Minor Surgery Facility	Granted	2014/02948 PCT/US2012/65988 (61/588,814) (61/561,963) International	ZA 2014/02948 11/25/2015	11/20/2012 (01/20/2012) (11/21/2011)	T.H. Blackwell; T.J. Masud Jr; J.D. Fischer	Med1 Partners
3022.015.US United States	Composite Antigenic Sequences and Vaccines	Maintenance fee due 09/21/2020	13/750,771 (61/591,113) US	US 9,598,462 03/21/2017	01/25/2013 (01/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.015.USCP United States	Composite Antigenic Sequences and Vaccines (CIP of 007 and 015)	Maintenance fee due 12/26/2021	15/447,972 (14/473,605) (14/473,605) (12/199,729) (60/968,145) (12/199,729) (60/968,145)	US 10,004,799 06/26/2018	03/02/2017 (07/08/2016) (08/29/2014) (01/25/2013) (01/26/2012) (08/27/2008) (08/27/2007)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.015.USCP0 ² United States	Methods of Treating and Preventing Influenza Infections (CIP of 007US and 015US and 015USCP)	Awaiting examination	US 15/983,215 15/447,972 (14/473,605) (14/473,605) (12/199,729) (60/968,145) (12/199,729) (60/968,145)		05/18/2018 03/02/2017 (07/08/2016) (08/29/2014) (01/25/2013) (01/26/2012) (08/27/2008) (08/27/2007)	G.W. Fischer L.T. Daum	Longhorn
3022.015.USCP0 ³ United States	Composite Antigenic Sequences and Vaccines (to be CIP of 007 and 015)	For new antibody claims when deposited	US 15/447,972 (14/473,605) (14/473,605) (12/199,729) (60/968,145) (12/199,729) (60/968,145)		03/02/2017 (07/08/2016) (08/29/2014) (01/25/2013) (01/26/2012) (08/27/2008) (08/27/2007)	G.W. Fischer L.T. Daum	Longhorn
3022.015.PCT International	Composite Antigenic Sequences and Vaccines	National Stage applications filed CA, CN, EP, IN and ZA only	PCT/US2013/23269 (61/591,113) US		01/25/2013 (01/24/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.015.CA	Composite Antigenic Sequences and Vaccines	Instructions for Response to OA sent 06/22/2015	2,863,083 PCT/US2013/23269 (61/591,113)		01/25/2013 (01/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.015.CN	Composite Antigenic Sequences and	Abandoned	201380006720.2 PCT/US2013/23269 (61/591,113)		01/25/2013 (01/26/2012)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
	Vaccines						
3022.015.EP	Composite Antigenic Sequences and Vaccines	Application withdrawn in favor of divisional	13741334.0 PCT/US2013/23269 (61/591,113)		01/25/2013 (01/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.015.EPDV	Composite Antigenic Sequences and Vaccines	Filed, reviewing claims	13741334.0 13741334.0 PCT/US2013/23269 (61/591,113)		11/07/2018 01/25/2013 (01/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.015.IN	Composite Antigenic Sequences and Vaccines	Response to examination report due 05/01/2019	1354/KOLNP/2014 PCT/US2013/23269 (61/591,113)		01/25/2013 (01/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.015.ZA	Composite Antigenic Sequences and Vaccines	Granted	2014/04712 PCT/US2013/23269 (61/591,113)	ZA2014/04712 01/27/2016	01/25/2013 (01/26/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.017.US	Compositions and Methods for the Collection and Isolation of Nucleic Acids from Biological Specimens	Abandoned	13/839,847 (61/616,676) US		03/15/2013 (03/28/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.017.USCP United States	Compositions and Methods for the Collection and Isolation of Nucleic Acids from Biological Specimens (CIP of 003 and	Abandoned	15/603,910 (13/839,847) (61/616,676) 14/969,339 (13/328,992) (12/426,890) (12/243,949) (60/976,728)		05/24/2017 03/15/2013 (03/28/2012) 12/15/2015 (12/16/2011) (04/20/09) (10/01/08) (10/01/07)	L.T. Daum G.W. Fischer	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNED
	017)		US				
3022.017.PCT International	Compositions and Methods for the Collection and Isolation of Nucleic Acids from Biological Specimens	National Stage applications filed in AU, CA, CN, EP and ZA	PCT/US2013/32354 (61/616,676) International		03/15/2013 (03/28/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.017.AU Australia	Compositions and Methods for the Collection and Isolation of Nucleic Acids from Biological Specimens	Annuities due March 15	2013240200 PCT/US2013/32354 (61/616,676) Australia	AU 2013/240200 02/02/2017	(03/15/2013) (03/28/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.017.CA Canada	Compositions and Methods for the Collection and Isolation of Nucleic Acids from Biological Specimens	Annuities due yearly	2,868,805 PCT/US2013/32354 (61/616,676) Canada	CA 2,868,805 03/04/2018	(03/15/2013) (03/28/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.017.CN China	Compositions and Methods for the Collection and Isolation of Nucleic Acids from Biological Specimens	Appeal due 02/28/2019	201380028096.6 PCT/US2013/32354 (61/616,676) China		(03/15/2013) (03/28/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.017.EP Europe	Compositions and Methods for the Collection and	Instructions to pay grant fee and validate in	13770217.1 PCT/US2013/32354 (61/616,676)	Allowed	(03/15/2013) (03/28/2012)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
	Isolation of Nucleic Acids from Biological Specimens	the UK and Germany only sent 01/29/2019	Europe				
3022.017.EPDV Europe	Compositions and Methods for the Collection and Isolation of Nucleic Acids from Biological Specimens	Instructions to file sent 01/29/2019	TBA 13770217.1 PCT/US2013/32354 (61/616,676) Europe		??/??/2019 (03/15/2013) (03/28/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.017.ZA South Africa	Compositions and Methods for the Collection and Isolation of Nucleic Acids from Biological Specimens	Maintenance fee due yearly	2014/07051 PCT/US2013/32354 (61/616,676) South Africa	ZA2014/07051 03/29/2017	(03/15/2013) (03/28/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.018.US United States	Ion Torrent Genomic Sequencing	Maintenance fee due 12/14/2019	13/890,512 (61/737,250) (61/695,960) (61/646,060) (61/644,876) US	U.S. 9,365,904 06/14/2016	05/09/2013 (12/14/2012) (08/31/2012) (05/11/2012) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.USCP United States	Next Generation Genomic Sequencing Methods	Maintenance fee due 09/21/2020	14/527,281 (61/897,015) (13/890,512) (61/737,250) (61/695,960) (61/646,060) (61/644,876) US	U.S. 9,598,737 03/21/2017	10/29/2014 (10/29/2013) (05/09/2013) (12/14/2012) (08/31/2012) (05/11/2012) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.USCP0	Next Generation	Awaiting	15/448,966		03/03/2017	L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNEE
2 United States	Genomic Sequencing Methods	examination	(14/527,281) (61/897,015) (13/890,512) (61/737,250) (61/695,960) (61/646,060) (61/644,876) US		(10/29/2014) (10/29/2013) (05/09/2013) (12/14/2012) (08/31/2012) (05/11/2012) (05/09/2012)	G.W. Fischer	
3022.018.PCT International	Ion Torrent Genomic Sequencing	National Stage applications to be filed in AU, CA, CN, EP and ZA	PCT/US2013/40302 (61/644,876) International		05/09/2013 (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.AU Australia	Ion Torrent Genomic Sequencing	Annuities due every May 9	2013259495 PCT/US2013/40302 (61/644,876) Australia	AU 2013259495 09/14/2017	10/15/2014 (05/09/2013) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.CA Canada	Ion Torrent Genomic Sequencing	Annuities due yearly	2,872,479 PCT/US2013/40302 (61/644,876) Canada	CA 2,872,479 11/28/2017	10/31/2014 (05/09/2013) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.CADV Canada	Ion Torrent Genomic Sequencing	Response to Examination Report filed 12/14/2018	2,976,934 2,872,479 PCT/US2013/40302 (61/644,876) Canada		08/22/2017 10/31/2014 (05/09/2013) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.CN China	Ion Torrent Genomic Sequencing	To be abandoned in favor of divisional)	201380024174.5 PCT/US2013/40302 (61/644,876) China		11/07/2014 (05/09/2013) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.CNDV China	Ion Torrent Genomic Sequencing	Request for reexamination filed	201810225084.7 201380024174.5 PCT/US2013/40302		03/19/2018 11/07/2014 (05/09/2013)	L.T. Daum G.W. Fischer	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.018.EP Europe	Ion Torrent Genomic Sequencing	Abandoned in favor of divisional	13787564.7 PCT/US2013/40302 (61/644,876) Europe		10/22/2014 (05/09/2013) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.EPDV Europe	Ion Torrent Genomic Sequencing	Response to examination due 12/04/2018	18182794.0 13787564.7 PCT/US2013/40302 (61/644,876) Europe		07/10/2018 10/22/2014 (05/09/2013) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.018.ZA South Africa	Ion Torrent Genomic Sequencing	Annuities due yearly	2014/07053 PCT/US2013/40302 (61/644,876) South Africa	ZA2014/07053 10/26/2016	09/29/2014 (05/09/2013) (05/09/2012)	L.T. Daum G.W. Fischer	Longhorn
3022.019.PCT United States	Next Generation Genomic Sequencing Methods	National stage applications filed in AU, CA, CN, EP, IN, US and ZA	PCT/US2014/62889 (61/897,015) International		10/29/2014 (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn
3022.019.AU Australia	Next Generation Genomic Sequencing Methods	Annuities due yearly	2014342414 (PCT/US2014/62889) (61/897,015) Australia	AU2014/342414 10/12/2017	04/27/2016 (10/29/2014) (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn
3022.019.AUDV Australia	Next Generation Genomic Sequencing Methods	Response to examination report and acceptance due 07/20/2019	2017203556 2014342414 (PCT/US2014/62889) (61/897,015) Australia		05/?/?/2017 (04/27/2016) (10/29/2014) (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNEE
3022.019.CA Canada	Next Generation Genomic Sequencing Methods	Abandoned in favor of divisional	2,929,108 (PCT/US2014/62889) (61/897,015) Canada		04/29/2016 (10/29/2014) (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn
3022.019.CADV Canada	Next Generation Genomic Sequencing Methods	Awaiting examination	TBA 2,929,108 (PCT/US2014/62889) (61/897,015) Canada		06/??/2017 04/29/2016 (10/29/2014) (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn
3022.019.CN China	Next Generation Genomic Sequencing Methods	Awaiting examination	201480071698.4 (PCT/US2014/62889) (61/897,015) China		07/16/2016 (10/29/2014) (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn
3022.019.EP Europe	Next Generation Genomic Sequencing Methods	Response to examination report due 02/16/2019	14856946.0 (PCT/US2014/62889) (61/897,015) Europe		04/28/2016 (10/29/2014) (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn
3022.019.IN India	Next Generation Genomic Sequencing Methods	Updated Form 3 filed 09/28/2018; awaiting exam	201617014775 (PCT/US2014/62889) (61/897,015) India		04/28/2016 (10/29/2014) (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn
3022.019.ZA South Africa	Next Generation Genomic Sequencing Methods	Annuites due yearly	2016/02936 (PCT/US2014/62889) (61/897,015) South Africa	ZA 2016/02936 10/29/2017	04/29/2016 (10/29/2014) (10/29/2013)	L.T. Daum G.W. Fischer	Longhorn
3022.020.US	Non-interfering, Multipurpose Compositions for Collecting, Transporting and Storing Biological	Abandoned in favor of 020.USCP	14/136,758 (61/746,962) US		12/20/2013 (12/28/2012)	G.W. Fischer L.T. Daum	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNED
3022.020.USCP	Non-interfering, Multipurpose Compositions for Collecting, Transporting and Storing Biological Samples (CIP of 003 and 020)	Response to FOA and RCE due 01/23/2019 (+1); Considering abandonment	15/684,272 14/136,758 (61/746,962) 15/626,693 (14/969,339) (13/328,992) (12/426,890) (12/243,949) (60/976,728) US		08/23/2017 12/20/2013 (12/28/2012) 06/19/2017 12/15/2015 (12/16/2011) (04/20/09) (10/01/08) (10/01/07)	G.W. Fischer L.T. Daum	Longhorn
3022.020.PCT International	Non-interfering, Multipurpose Compositions for Collecting, Transporting and Storing Biological Samples	No national Stage applications filed	PCT/US2013/77038 (61/746,962) International		12/20/2013 (12/28/2012)	G.W. Fischer L.T. Daum	Longhorn
3022.023.US United States	Enhancing Immunity to Tuberculosis	Maintenance fee due 05/21/2021	14/473,322 (61/872,391) US	US 9,821,047 11/21/2017 Priority claimed in 035	08/29/2014 (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn
3022.023.PCT International	Enhancing Immunity to Tuberculosis	National Stage applications filed AU, CA, CN, EP, IN and ZA	PCT/US2014/53471 (61/872,391) International		08/29/2014 (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn
3022.023.AU Australia	Enhancing Immunity to Tuberculosis	Annuities due yearly	2014/312135 PCT/US2014/53471 (61/872,391) Australia	AU 2014/312135 12/21/2017	02/18/2016 (08/29/2014) (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.023.AUDV Australia	Enhancing Immunity to Tuberculosis	Response to OA and acceptance due 09/13/2019	2017272265 2014/312135 PCT/US2014/53471 (61/872,391 Australia		12/07/2017 02/18/2016 (08/29/2014) (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn
3022.023.CA Canada	Enhancing Immunity to Tuberculosis	Filed with request for examination	2,922,431 PCT/US2014/53471 (61/872,391 Canada		02/24/2016 (08/29/2014) (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn
3022.023.CN China	Enhancing Immunity to Tuberculosis	Instructions for response to OA sent 09/21 due 12/25/2018	201480059768.4 PCT/US2014/53471 (61/872,391 China		04/29/2016 (08/29/2014) (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn
3022.023.EP Europe	Enhancing Immunity to Tuberculosis	Instructions for response to examination report sent 01/29/18 due 05/25/2018	14839667.4 PCT/US2014/53471 (61/872,391 Europe	Potentially allowable	03/24/2016 (08/29/2014) (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn
3022.023.IN India	Enhancing Immunity to Tuberculosis	Filed with request for examination; Executed documents sent 03/11/2016	201617005516 PCT/US2014/53471 (61/872,391 India		02/17/2016 (08/29/2014) (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn
3022.023.ZA South Africa	Enhancing Immunity to Tuberculosis	Annuities due every August 29	2016/01745 PCT/US2014/53471 (61/872,391 South Africa	ZA2016/01745 08/30/2017	02/18/2016 (08/29/2014) (08/30/2013)	G.W. Fischer L.T. Daum C.J. Sei	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNEE
3022.024.US United States	Ultra-low Dose Lysostaphin for Treating MRSA	Abandoned	14/584,101 61/921,443 US		12/29/2014 (12/28/2013)	G.W. Fischer	StaphRx, LLC
3022.024.PCT International	Ultra-low Dose Lysostaphin for Treating MRSA	National stage applications filed CA, EP and IN only	PCT/US2014/72501 61/921,443 International		12/29/2014 (12/28/2013)	G.W. Fischer	StaphRx, LLC
3022.024.CA Canada	Ultra-low Dose Lysostaphin for Treating MRSA	Abandoned	2,934,670 PCT/US2014/72501 61/921,443 Canada		06/20/2016 (12/29/2014) (12/28/2013)	G.W. Fischer	StaphRx, LLC
3022.024.EP Europe	Ultra-low Dose Lysostaphin for Treating MRSA	Abandoned	14874783.5 PCT/US2014/72501 61/921,443 Europe		06/15/2016 (12/29/2014) (12/28/2013)	G.W. Fischer	StaphRx, LLC
3022.024.IN India	Ultra-low Dose Lysostaphin for Treating MRSA	Abandoned	2016-17019772 PCT/US2014/72501 61/921,443 India		06/10/2016 (12/29/2014) (12/28/2013)	G.W. Fischer	StaphRx, LLC
3022.027.US United States	Multimodal Antimicrobial Therapy	Maintenance fee due 05/14/2021	14/584,110 61/921,442 US	US 9,814,766 11/14/2017	12/29/2014 (12/28/2013)	G.W. Fischer R.F. Schuman	Longhorn
3022.027.USCN United States	Multimodal Antimicrobial Therapy	Awaiting examination	15/794,157 14/584,110 61/921,442 US		10/26/2017 12/29/2014 (12/28/2013)	G.W. Fischer R.F. Schuman	Longhorn
3022.027.PCT International	Multimodal Antimicrobial Therapy	National stage applications filed CA, EP and IN only	PCT/US2014/72506 61/921,442 International		12/29/2014 (12/28/2013)	G.W. Fischer R.F. Schuman	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNED
3022.027.CA Canada	Multimodal Antimicrobial Therapy	Instructions to pay issue fee and no divisionals sent 08/21/2018	2,951,312 PCT/US2014/72506 61/921,442 Canada	Allowed EP 3086805 10/03/2018	06/20/2016 (12/29/2014) (12/28/2013)	G.W. Fischer R.F. Schuman	Longhorn
3022.027.EP Europe	Multimodal Antimicrobial Therapy	Instructions to validate in BE, CH, DE, FR, IE, IT, NL, and UK sent 12/13/2018	EP 14874375.0 PCT/US2014/72506 61/921,442 Europe	EP 3086805 10/03/2018	06/16/2016 (12/29/2014) (12/28/2013)	G.W. Fischer R.F. Schuman	Longhorn
3022.027.IN India	Multimodal Antimicrobial Therapy	Filed; awaiting examination; Updated Form 3 filed 12/24/2018	2016-17019920 PCT/US2014/72506 61/921,442 India		06/10/2016 (12/29/2014) (12/28/2013)	G.W. Fischer R.F. Schuman	Longhorn
3022.027.ZA South Africa	Multimodal Antimicrobial Therapy	Annuites due yearly	2016/04082 PCT/US2014/72506 61/921,442 South Africa	ZA 2016/04082 07/26/2017	06/15/2016 (12/29/2014) (12/28/2013)	G.W. Fischer R.F. Schuman	Longhorn
3022.028.PCT International	Apparatus and Methods for Detecting and Identifying Nucleic Acid Sequences in Biological Samples	No national stage applications filed	PCT/US2015/32432 (62/003,976) International		05/26/2015 (05/28/2014)	L.T. Daum G.W. Fischer	Longhorn
3022.034.US United States	Rapid Methods for the Extraction of Nucleic Acids from Biological Samples	Maintenance fee due 11/12/2021	15/152,871 62/232,666 62/161,527 US	US 9,976,166 06/22/2018	05/13/2016 09/25/2015 05/14/2015	Gerald W. Fischer; Luke T. Daum	Longhorn
3022.034.USCN United States	Rapid Methods for the Extraction of	Maintenance fee due	15/972,341 15/152,871	US 10,087,439 10/02/2018	05/07/2018 05/13/2016	Gerald W. Fischer;	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNE D
3022.034.USCNO 2 United States	Rapid Methods for the Extraction of Nucleic Acids from Biological Samples	Response to MP Notice filed 12/19/2018; Needs new claims	16/144,355 15/972,341 15/152,871 62/232,666 62/161,527 US		09/27/2018 05/07/2018 05/13/2016 09/25/2015 05/14/2015	Gerald W. Fischer; Luke T. Daum	Longhorn
3022.034.PCT International	Rapid Methods for the Extraction of Nucleic Acids from Biological Samples	National Stage applications filed CA, EP and IN only	PCT/US2016/32033 (62/232,666) (62/161,527) International		05/12/2016 (09/25/2015) (05/14/2015)	Luke T. Daum; Gerald W. Fischer	Longhorn
3022.034.CA Canada	Rapid Methods for the Extraction of Nucleic Acids from Biological Samples	Response to examination report due 04/04/2019	2,985,652 PCT/US2016/32033 (62/232,666) (62/161,527) CA		11/09/2017 05/12/2016 (09/25/2015) (05/14/2015)	Luke T. Daum Gerald W. Fischer	Longhorn
3022.034.EP Europe	Rapid Methods for the Extraction of Nucleic Acids from Biological Samples	Response to search report due 05/23/2019	16793506.3 PCT/US2016/32033 (62/232,666) (62/161,527) EP		11/15/2017 05/12/2016 (09/25/2015) (05/14/2015)	Luke T. Daum Gerald W. Fischer	Longhorn
3022.034.IN India	Rapid Methods for the Extraction of Nucleic Acids from Biological Samples	Awaiting examination	201717040408 PCT/US2016/32033 (62/232,666) (62/161,527) IN		11/13/2017 05/12/2016 (09/25/2015) (05/14/2015)	Luke T. Daum Gerald W. Fischer	Longhorn
3022.035.US United States	Monoclonal Antibodies that	Response to FOA and RCE	15/275,813 (62/232,114)		09/26/2016 (09/24/2015)	Gerald W. Fischer;	Longhorn

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNEE
	Modulate Immunity to MTB and Enhance Immune Clearance (CIP of 3022.023)	due 02/06/2019 (+3)	US			Luke T. Daum Richard F. Schuman Clara J. Sei	
3022.035.USCP United States	Antibodies that Modulate Immunity to Drug Resistant and Latent MTB Infections (CIP of 3022.023 and 035)	Response to NFOA due 02/09/2019 (+3)	15/850,208 15/275,813 14/473,322 (62/232,114) US		12/21/2017 09/26/2016 08/29/2014 (09/24/2015)	Gerald W. Fischer; Luke T. Daum Richard F. Schuman Clara J. Sei	Longhorn
3022.035.AU Australia	Enhancing Immunity to Tuberculosis (CIP of 3022.023 and 035)	Response to examination and acceptance due 09/13/2019	2017272266 AU		12/07/2017	Gerald W. Fischer; Luke T. Daum Richard F. Schuman Clara J. Sei	TBA
3022.036.US United States (claims priority back to 003)	Compositions and Methods for Detecting and Quantifying Nucleic Acid Sequences in Blood Samples	Awaiting examination	15/361,228 62/260,064 US		11/25/2016 11/25/2015	Jeffrey D. Fischer; Luke T. Daum Gerald W. Fischer	Longhorn
3022.036PCT International	Compositions and Methods for Detecting and Quantifying Nucleic Acid Sequences in Blood Samples	No national stage applications filed	PCT/US2016/63767 62/260,064 International		11/25/2016 11/25/2015	Jeffrey D. Fischer; Luke T. Daum Gerald W. Fischer	Longhorn
3022.038.USPR United States	Mobile Medical Facility	Abandoned but under consideration	62/430,039		12/05/2016	T.H. Blackwell; T.J. Masud;	NYA (for Medt Partners)

REF NO	TITLE	STATUS	APPLN NO. & COUNTRY	PATENT NO. ISSUE DATE	FILING DATE (PRIORITY DATE)	INVENTOR(S)	ASSIGNED
3022.039.USPR United States	Targeted Next Generation Sequencing	Under consideration				L.T. Daum G.W. Fischer	NYA
3022.041.USPR United States	Rapid Methods for the Detection of Microbial Resistance	Conversion due 04/20/2019	62/660,402		04/20/2018	L.T. Daum G.W. Fischer	NYA
3022.042.USPR United States	Rapid PCR Methodology	Conversion due 11/09/2019	62/758,173		11/09/2018	L.T. Daum G.W. Fischer	NYA
3022.042.USPR0 2 United States	Rapid PCR Methodology	Conversion due 11/09/2019	62/773,566		11/30/2018	L.T. Daum G.W. Fischer	NYA

US8080645	BIOLOGICAL SPECIMEN COLLECTION/TRANSPORT COMPOSITIONS AND METHODS	2009-04-20		2009-09-17	
US8084443	BIOLOGICAL SPECIMEN COLLECTION AND TRANSPORT SYSTEM AND METHODS OF USE	2008-10-01		2009-12-17	
US8097419	COMPOSITIONS AND METHOD FOR RAPID, REAL-TIME DETECTION OF INFLUENZA A VIRUS (H1N1) SWINE 2009	2009-07-28		2010-01-14	

US8821885	IMMUNOGENIC COMPOSITIONS AND METHODS	2008-08-27	2009-03-26
US10004799	Composite Antigenic Sequences and Vaccines	2017-03-02	2017-06-29
US9598737	NEXT GENERATION GENOMIC SEQUENCING METHODS	2014-10-29	2015-02-26
US9814766	MULTIMODAL ANTIMICROBIAL THERAPY	2014-12-29	2015-07-02
US9976136	Rapid Methods for the Extraction of Nucleic Acids from Biological Samples	2016-05-12	2016-11-17

EXHIBIT C
Trademarks

Trademarks (As of February 1, 2019)

REF NO	MARK	CLASS	STATUS	APPLN NO. & COUNTRY	REGISTRATION NO. ISSUE DATE	FILING DATE	APPLICANT
3022.009.USTM United States	PRIMESTORE	1 and 5	Section 8/9 affidavits due 04/05/2021	77/940,211 US	US 3,888,755 04/05/2011	02/19/2010	Longhorn
3022.009.CNTM China	PRIMESTORE	1 and 5	Abandoned	23278958, 23278959 CN		03/24/2017	Longhorn
3022.009.HKTM Hong Kong	PRIMESTORE	1 and 5	Renewal due 03/24/2027	304089240 HK	HK 304089240 03/24/2017	03/24/2017	Longhorn
3022.009.MOTM Macau	PRIMESTORE	1 and 5	Awaiting examination	TBA MO		03/24/2017	Longhorn
3022.010.USTM United States	PRIMESTORE MTM	1 and 5	Sec 8/9 Affidavits due 11/29/2021	77/940,238 US	US 4,063,971 11/29/2011	02/19/2010	Longhorn
3022.011.USTM United States	PRIMESTORE MOLECULAR TRANSPORT MEDIA	1 and 5	Abandoned	77/940,239 US		02/19/2010	Longhorn
3022.012.USTM United States	PRIMEMIX	1 and 5	Sec 8/9 Affidavits due 12/21/2020	77/940,241 US	US 3,885,397 12/21/2010	02/19/2010	Longhorn
3022.012.CATM01 Canada	PRIMEMIX	1	Renewal due 05/16/2028	1492573 CA	CA 851,077 05/16/2013	08/17/2010	Longhorn
3022.012.EPTM01	PRIMEMIX	1 and 5	Abandoned	009320151		8/18/2010	Longhorn

REF NO	MARK	CLASS	STATUS	APPLN NO. & COUNTRY	REGISTRATION NO. ISSUE DATE	FILING DATE	APPLICANT
Europe				EP			
3022.012.EPTM02 Europe	LONGHORN PRIMEMIX	1 and 5	Renewal application due by 06/30/2021	010088656 EP	EP 010088656 12/02/2011	06/30/2011	Longhorn
3022.012.ZATM01 South Africa	PRIMEMIX	1	Issued 10/07/2013 Renewal application due by 08/17/2020	2010/17860 ZA	ZA 2010/17860 10/07/2013	08/17/2010	Longhorn
3022.012.ZATM02 South Africa	PRIMEMIX	5	Abandoned	2010/17861 ZA		08/17/2010	Longhorn
3022.021.USTM United States	PRIMESEQUENCE	9	Section 8/15 Affidavits due 03/10/2021	85/803,259 US	US 4,700,277 03/10/2015	12/14/2012	Longhorn
3022.021.EPTM Europe	PRIMESEQUENCE	9	Renewal due 07/30/2023	011628121 CTM	EP 011628121 07/30/2013	03/05/2012	Longhorn
3022.022.USTM United States	LONGHORN PRIMESEQUENCE	9	Section 8/15 Affidavits due 03/31/2021	85/803,275 US	US 4,712,916 03/31/2015	12/14/2012	Longhorn
3022.022.EPTM Europe	LONGHORN PRIMESEQUENCE	9	Renewal due 07/30/2023	011628146 CTM	EP 011628146 07/30/2013	03/05/2012	Longhorn
3022.025.USTM United States	PRIMESEQ	9	Section 8/15 Affidavits due 11/13/2020	86/080,085 US	US 4,529,388 05/13/2014	10/01/2013	Longhorn
3022.025.EPTM Europe	PRIMESEQ	9, 16, 42	Registered on 08/20/2014 Renewal due 03/26/2024	012731626 EP	EP 012731626 08/20/2014		Longhorn

REF NO	MARK	CLASS	STATUS	APPLN NO. & COUNTRY	REGISTRATION NO. ISSUE DATE	FILING DATE	APPLICANT
3022.026.USTM United States	PRIMEEXTRACT	9	Section 8/15 Affidavits due 11/13/2020	86/105,513 US	US 4,529,646 05/13/2014	10/30/2013	Longhorn
3022.026.EPTM Europe	PRIMEEXTRACT	9, 16, 42	Renewal due 08/20/2024	012731634 EP	EP 012731634 08/20/2014		Longhorn
3022.029.USTM United States	PRIMESWAB	5	Section 8/15 Affidavits due 12/02/2020	86/247,154 US	US 4,648,521 12/02/2014	04/09/2014	Longhorn
3022.029.CNTM China	PRIMESWAB	5	Abandoned	86247154 China		09/12/2014	Longhorn
3022.029.EPTM Europe	PRIMESWAB	5, 9, 16	Registered; Renewal due 09/05/2024	013231444 Europe	EP 013231444 06/07/2015	09/05/2014	Longhorn
3022.029.ZATM South Africa	PRIMESWAB	5	Scheduled for publication	2014/24468 South Africa	Allowed		Longhorn
3022.030.USTM United States	PRIMESUITE	5,	Section 8/15 Affidavits due 05/12/2021	86/391192 US	US 4,734,696 05/12/2015	09/10/2014	Longhorn
3022.030.CNTM China	PRIMESUITE	3, 16, 35	Renewal due 12/27/2025	15536864-6 CN	CN 15536864, CN 15536865, and CN 15536866 12/28/2015	10/16/2014	Longhorn
3022.030.EPTM Europe	PRIMESUITE	1, 10, 16	Registered; renewal due 10/03/2024	013321641 EP	EP 013321641 02/25/2015	10/03/2014	Longhorn
3022.030.ZATM South Africa	PRIMESUITE		Registered; renewal due 10/16/2024	2014/28161 ZA	ZA 2014/28161 10/16/2014	10/16/2014	Longhorn
3022.031.USTM United States	PRIME PCR	5	Section 8/15 Affidavits due 05/12/2021	86/459229 US	US 4,736,378 05/12/2015	11/19/2014	Longhorn

REF NO	MARK	CLASS	STATUS	APPLN NO. & COUNTRY	REGISTRATION NO. ISSUE DATE	FILING DATE	APPLICANT
3022.031.CNTM China	PRIME PCR	5	Renewal due 07/13/2026	CN 013908108	CN 16633678 07/14/2016		Longhorn
3022.031.EPTM Europe	PRIME PCR	5, 42	Abandoned	013908108 EP			Longhorn
3022.031.ZATM South Africa	PRIME PCR	5	Renewal due 04/07/2025	2015/08747 ZA	ZA 2015/08747 08/22/2017		Longhorn
3022.032.USTM United States	PRIMEPCR SYSTEM	5, 42	Section 8/15 Affidavits due 05/12/2021	86/462,221 US	US 4,735,383 05/12/2015	11/22/2014	Longhorn
3022.032.CNTM China	PRIME PCR SYSTEM	5	Renewal due 08/13/2026	16633679 CN	CN 16633679 08/14/2016		Longhorn
3022.032.EPTM Europe	PRIME PCR SYSTEM	5, 42	Abandoned	013908116 EP			Longhorn
3022.032.ZATM South Africa	PRIME PCR SYSTEM	5	Abandoned	2015/08748 ZA			Longhorn
3022.033.USTM United States	PRIMEMIX PCR SYSTEM	5, 42	Section 8/15 affidavits due 4/28/2021	86/462,222 US	US 4,727,798 04/28/2015	11/22/2014	Longhorn
3022.033.CNTM China	PRIMEMIX PCR SYSTEM	5	Registered; renewal due June 20, 2026	16633680 CN	CN 1633680 06/21/2016		Longhorn
3022.033.EPTM Europe	PRIMEMIX PCR SYSTEM	1, 5, 16	Registered; renewal due 04/02/2025	013908124 EP	EP 013908124 08/04/2015		Longhorn
3022.033.ZATM South Africa	PRIMEMIX PCR SYSTEM	5	Abandoned	2015/08749 ZA			Longhorn

TM/AN/RN/Disclaimer	Status/Key Dates	Full Goods/Services	Owner
LONGHORN PRIMESEQUENCE	Registered March 31, 2015	(Int'l Class: 09) sterile kits for use in research comprised of one or more	Longhorn Vaccines and Diagnostics, LLC (Maryland)

TM/AN/RN/Disclaimer	Status/Key Dates	Full Goods/Services	Owner
RN: 4712916 SN: 85803275	Int'l Class: 09 First Use: December 4, 2014 Filed: December 14, 2012 Registered: March 31, 2015	sealable vessels for the collection and preservation of biological samples of macromolecules to be sequenced, chemical reagents for the sequencing of the macromolecules, and associated instructional materials	Limited Liability Company) Ste. 910 2 Bethesda Metro Center Bethesda Maryland 20814
PRIME PCR RN: 4735378 SN: 86459229 Disclaimer: "PCR"	Registered May 12, 2015 Int'l Class: 05,42 First Use: December 4, 2014 Filed: November 19, 2014 Registered: May 12, 2015	(Int'l Class: 05) collections of reagents and solutions, namely, medical diagnostic reagents and assays for testing of bodily fluids for use in disease detection or determining the presence of substances and instructional materials sold together therewith (Int'l Class: 42) scientific and medical research services for others, in the collection, stabilization, identification, and analysis of biological specimens	Longhorn Vaccines and Diagnostics, LLC (Maryland Limited Liability Company) Ste. 910 2 Bethesda Metro Center Bethesda Maryland 20814
PRIME PCR SYSTEM RN: 4735383 SN: 86462221 Disclaimer: "PCR SYSTEM"	Registered May 12, 2015 Int'l Class: 05,42 First Use: May 13, 2008 Filed: November 22, 2014 Registered: May 12, 2015	(Int'l Class: 05) collections of reagents and solutions, namely, medical diagnostic reagents and assays for testing of bodily fluids for use in disease detection or determining the presence of substances and instructional materials sold together therewith (Int'l Class: 42) scientific and medical research services for others, in the collection, stabilization, identification, and analysis of biological specimens	Longhorn Vaccines and Diagnostics, LLC (Maryland Limited Liability Company) Ste. 910 2 Bethesda Metro Center Bethesda Maryland 20814
PRIMEMIX RN: 3895397 SN: 77940241	Registered 8 & 15 May 19, 2016 Int'l Class: 01,05 First Use: May 28, 2009 Filed: February 19, 2010 Registered: December 21, 2010	(Int'l Class: 01) reagents for scientific, research or medical laboratory use, namely, reagents for polymerase chain reaction (pcr) diagnostics (Int'l Class: 05) medical diagnostic reagents, namely, reagents for polymerase chain reaction (pcr) diagnostics	Longhorn Vaccines and Diagnostics, LLC (Delaware Limited Liability Company) 1747 Citadel Plaza, Suite 206 San Antonio Texas 78209

TM/AN/RN/Disclaimer	Status/Key Dates	Full Goods/Services	Owner
PRIMEMIX PCR SYSTEM RN: 4727798 SN: 86462222 Disclaimer: "PCR SYSTEM"	Registered April 28, 2015 Int'l Class: 05,42 First Use: May 13, 2008 Filed: November 22, 2014 Registered: April 28, 2015	(Int'l Class: 05) collections of reagents and solutions, namely, medical diagnostic reagents and assays for testing of bodily fluids for use in disease detection or determining the presence of substances and instructional materials sold together therewith (Int'l Class: 42) scientific and medical research services for others, in the collection, stabilization, identification, and analysis of biological specimens	Longhorn Vaccines and Diagnostics, LLC (Maryland Limited Liability Company) Ste. 910 2 Bethesda Metro Center Bethesda Maryland 20814
PRIMESEQ RN: 4529388 SN: 86080085	Registered May 13, 2014 Int'l Class: 09 First Use: October 31, 2013 Filed: October 1, 2013 Registered: May 13, 2014	(Int'l Class: 09) sterile kits for use in research comprising one or more sealable vessels for collecting and preserving biological samples containing macromolecules to be sequenced, chemical reagents that are useful for the sequencing of the macromolecules, and associated instructional materials	Longhorn Vaccines & Diagnostics, LLC (Maryland Limited Liability Company) Ste. 910 2 Bethesda Metro Center Bethesda Maryland 20814
PRIMESEQUENCE RN: 4700277 SN: 85803259	Registered March 10, 2015 Int'l Class: 09 First Use: December 4, 2014 Filed: December 14, 2012 Registered: March 10, 2015	(Int'l Class: 09) sterile kits for use in research comprising one or more sealable vessels for collecting and preserving biological samples containing macromolecules to be sequenced, chemical reagents that are useful for the sequencing of the macromolecules, and associated instructional materials	Longhorn Vaccines & Diagnostics, LLC (Maryland Limited Liability Company) Ste. 640 4520 East-West Highway Bethesda Maryland 20814
PRIMESTORE RN: 3939755 SN: 77940211	Registered 8 & 15 March 22, 2017 Int'l Class: 01,05 First Use: September 23, 2008 Filed: February 19, 2010 Registered: April 5, 2011	(Int'l Class: 01) collection reagents for medical laboratory use, namely, reagents for inactivating, stabilizing and protecting biological specimens (Int'l Class: 05) medical diagnostic reagents, namely, collection reagents for extracting, inactivating, stabilizing and protecting	Longhorn Vaccines and Diagnostics, LLC (Delaware Limited Liability Company) 1747 Citadel Plaza, Suite 206 San Antonio Texas 78209

TM/AN/RN/Disclaimer	Status/Key Dates	Full Goods/Services	Owner
PRIMESTOREMTM RN: 4063971 SN: 77940238	Registered 8 & 15 December 11, 2017 Int'l Class: 01,05 First Use: December 3, 2010 Filed: February 19, 2010 Registered: November 29, 2011	(Int'l Class: 01) collection reagents for medical laboratory use, namely, reagents for inactivating, stabilizing and protecting biological specimens (Int'l Class: 05) medical diagnostic reagents, namely, collection reagents for inactivating, stabilizing and protecting biological specimens	Longhorn Vaccines and Diagnostics, LLC (Delaware Limited Liability Company) 1747 Citadel Plaza, Suite 206 San Antonio Texas 78209
PRIMESUTE RN: 4734696 SN: 86391192	Registered May 12, 2015 Int'l Class: 05 First Use: October 29, 2014 Filed: September 10, 2014 Registered: May 12, 2015	(Int'l Class: 05) a collection of assay systems useful individually and in combinations for medical research, patient screening and tracking global disease progression, wherein the collection includes a plurality of assays systems, namely, diagnostic kits comprised primarily of medical diagnostic reagents and assays for testing of bodily fluids for use in disease detection, along with sterile absorbent swabs for collecting biological and environmental samples, sealable vessels of molecule transport medium for lysing, sterilizing and preserving macromolecules from biological and environmental samples, chemical reagents in vials for isolating and extracting nucleic acid sequences from macromolecules, pre-mixed chemical components and micro centrifuge columns for analysis of nucleic acid sequences, and instructional materials for each system of the collection sold together therewith	Longhorn Vaccines and Diagnostics, LLC (Maryland Limited Liability Company) Ste. 910 2 Bethesda Metro Center Bethesda Maryland 20814
PRIMESWAB RN: 4648521 SN: 86247154	Registered December 2, 2014 Int'l Class: 05 First Use: March 28, 2014 Filed: April 9, 2014 Registered: December 2, 2014	(Int'l Class: 05) sterile absorbent sticks in the nature of swabs used individually and as components of medical testing kits for collecting biological and environmental samples for storage and subsequent analysis for medical purposes	Longhorn Vaccines and Diagnostics, LLC (Maryland Limited Liability Company) Suite 910 2 Bethesda Metro Center Bethesda Maryland 20814

TM/AN/RN/Disclaimer	Status/Key Dates	Full Goods/Services	Owner
PRIMEXTRACT RN: 4529646 SN: 86105513	Registered May 13, 2014 Int'l Class: 09 First Use: October 24, 2013 Filed: October 30, 2013 Registered: May 13, 2014	(Int'l Class: 09) sterile kits for use in research and patient screening of nucleic acids from biological samples comprised of micro-centrifuge columns and a set of vials containing reagents for lysing components of the biological samples, washing components of the biological samples, and eluting nucleic acids from biological samples, and associated instructional materials	Longhorn Vaccines & Diagnostics, LLC (Maryland Limited Liability Company) 2 Bethesda Metro Center Ste. 910 Bethesda Maryland 20814

EXHIBIT D

Mask Works

None.

ANNEX A¹

INTELLECTUAL PROPERTY SECURITY AGREEMENT SUPPLEMENT

This Intellectual Property Security Agreement Supplement is entered into as of the [] day of [], 20[] by [], a [] (“ ”), [], a [] (each such entity, a “Grantor” and collectively, the “Grantors”).

RECITALS

A. Grantors are party to that certain Intellectual Property Security Agreement, by and between Agent and the Grantors, dated as of [], 20[] (as the same may have been amended, modified or supplemented from time to time prior to the date hereof, the “Existing IP Security Agreement”; capitalized terms used herein are used as defined in the Existing IP Security Agreement);

B. Grantors wish to amend the Existing IP Security Agreement by supplementing the Intellectual Property Collateral therein with the Intellectual Property listed on the exhibits hereto.

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 Credit Agreement, each Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure its obligations under the Credit Agreement, each Grantor grants and pledges to Agent, for the ratable benefit of the Lenders, a security interest in all of such Grantor's right, title and interest in, to and under its Intellectual Property (as defined in the Credit Agreement), including, without limitation, the following:

(a) Any and all Copyrights, including without limitation those set forth on Exhibit A attached hereto, as such exhibit may be further amended, modified or supplemented from time to time;

(b) Any and all Patents, including without limitation those set forth on Exhibit B attached hereto, as such exhibit may be further amended, modified or supplemented from time to time);

(c) Any and all Trademarks, including without limitation those set forth on Exhibit C attached hereto, as such exhibit may be further amended, modified or supplemented from time to time;

(f) Any and all Mask Works, including, without limitation those set forth on Exhibit D attached hereto, as such Exhibit may be amended, modified or supplemented from time to time;

(g) 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.

Grantors hereby agree that the Intellectual Property listed on the exhibits hereto shall become a part of the Intellectual Property Collateral in the Existing IP Security Agreement and shall secure all Obligations in accordance with the terms of the Credit Agreement. The exhibits of the Existing IP

¹ Note to draft: Annex A to be used to supplement the IP Security Agreement with new or revised intellectual property after the initial closing, in accordance with the updating requirements under the Credit Agreement

Security Agreement shall be deemed amended to add the Intellectual Property listed on the exhibits to this IP Security Agreement Supplement. The rights and remedies of the Agent with respect to the security interests granted herein are without prejudice to, and are in addition to those set forth in the Credit Agreement and the Existing IP Security Agreement.

The provisions of the Existing IP Security Agreement regarding choice of law, jurisdiction, venue and jury trial waiver are incorporated herein and shall govern this Intellectual Property Security Agreement Supplement.

[Signature Page Follows]

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

GRANTORS:

**LONGHORN VACCINE AND
DIAGNOSTICS, LLC**

By: _____ (SEAL)
Name: _____
Title: _____

EXHIBIT A

Copyrights

<u>Description</u>	Registration/ Application <u>Number</u>	Registration/ Application <u>Date</u>
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EXHIBIT B

Patents

<u>Description</u>	Registration/ Application <u>Number</u>	Registration/ Application <u>Date</u>
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EXHIBIT C

Trademarks

<u>Description</u>	Registration/ Application <u>Number</u>	Registration/ Application <u>Date</u>
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EXHIBIT D

Mask Works

Description

Registration/
Application
Number

Registration/
Application
Date