PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4908559

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	RELEASE OF SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
HERCULES CAPITAL, INC.	03/29/2018

RECEIVING PARTY DATA

Name:	JAGUAR HEALTH, INC.
Street Address:	201 MISSION STREET
Internal Address:	SUITE 2375
City:	SAN FRANCISCO
State/Country:	CALIFORNIA
Postal Code:	94105

PROPERTY NUMBERS Total: 20

Property Type	Number
Patent Number:	5211944
Patent Number:	5494661
Patent Number:	7341744
Patent Number:	7323195
Application Number:	11510152
Patent Number:	7556831
Patent Number:	8852649
Patent Number:	8574634
Patent Number:	8067041
Patent Number:	9138450
Patent Number:	8962680
Application Number:	13294307
Patent Number:	8846113
Patent Number:	9314437
Application Number:	13500589
Patent Number:	9198879
Application Number:	14023598
Application Number:	14276231
Application Number:	14307175

PATENT REEL: 045496 FRAME: 0039

504861820

Property Type	Number
Application Number:	14476236

CORRESPONDENCE DATA

Fax Number: (312)207-6400

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 312-207-1000

Email: ipdocket-chi@reedsmith.com
Correspondent Name: BENJAMIN L. BRIMEYER
Address Line 1: 10 SOUTH WACKER DRIVE

Address Line 2: REED SMITH, LLP

Address Line 4: CHICAGO, ILLINOIS 60606

NAME OF SUBMITTER:	BENJAMIN L. BRIMEYER
SIGNATURE:	/BENJAMIN L. BRIMEYER/
DATE SIGNED:	04/10/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 9

source=Hercules to Jaguar Release of Patent Security Agreement#page1.tif source=Hercules to Jaguar Release of Patent Security Agreement#page2.tif source=Hercules to Jaguar Release of Patent Security Agreement#page3.tif source=Hercules to Jaguar Release of Patent Security Agreement#page4.tif source=Hercules to Jaguar Release of Patent Security Agreement#page5.tif source=Hercules to Jaguar Release of Patent Security Agreement#page6.tif source=Hercules to Jaguar Release of Patent Security Agreement#page7.tif source=Hercules to Jaguar Release of Patent Security Agreement#page8.tif source=Hercules to Jaguar Release of Patent Security Agreement#page8.tif source=Hercules to Jaguar Release of Patent Security Agreement#page9.tif

RELEASE OF U.S. PATENT SECURITY INTEREST

This RELEASE OF TRADEMARK SECURITY INTEREST ("**Release**") is made and effective as of March 29, 2018 and granted by Hercules Capital, Inc. (*fka* Hercules Technology Growth Capital, Inc.), a Maryland corporation (the "**Secured Party**"), in favor of Jaguar Health, Inc. formerly known as Jaguar Animal Health, Inc., a Delaware corporation (the "**Debtor**") and its successors, assigns and legal representatives.

WHEREAS, Secured Party and Debtor are parties to that certain Intellectual Property Security Agreement, dated August 18, 2015 (the "Security Agreement");

WHEREAS, pursuant to the terms of the Security Agreements, Debtor granted to Secured Party a security interest in, among other collateral security, all right, title and interest of Debtor in, to and under all now owned and hereafter acquired Patents (as defined in the Security Agreement) and the Patent Licenses (as defined in the Security Agreement), together with the goodwill of the business symbolized by Patents of Debtor and all proceeds thereof, to secure the payment of all Obligations (as defined in the Security Agreement);

WHEREAS, the Patent Security Agreement was recorded with the United States Patent and Trademark Office at Reel 37809, Frame 0161-0185 on February 12, 2016; and

WHEREAS, the Debtor has requested that the Secured Party enter into this Release in order to effectuate, evidence and record the release and reassignment to the Debtor of any and all right, title and interest the Secured Party may have in the Patents and Patent Licenses pursuant to the Security Agreements.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Secured Party hereby states as follows:

Release of Security Interest. Secured Party, on behalf of itself and its successors, legal representatives and assigns, hereby terminates the IP Security Agreement and terminates, releases and discharges any and all security interests that it has pursuant to the Security Agreements in any and all right, title and interest of the Debtor, and reassigns to the Debtor any and all right, title and interest that it may have, in, to and under the following:

1. all Patents, including, without limitation, the Letters Patents and patent applications listed on <u>Schedule 1</u> annexed hereto, and all of the goodwill of the business connected with the use of, and symbolized by, each Patent; and

2. all products and proceeds of the foregoing, including, without limitation, any claim by Debtor against third parties for past, present or future (a) infringement of any Patent, including, without limitation, the issued Letters Patent and patent applications listed on <u>Schedule 1</u> annexed hereto, or (b) injury to the goodwill associated with any Patent or Patent licensed under any Patent License.

<u>Further Assurances</u>. Secured Party agrees to take all further actions, and provide to the Debtor and its successors, assigns and legal representatives all such cooperation and assistance, including, without limitation, the execution and delivery of any and all further documents or other instruments, as the Debtor and its successors, assigns and legal representatives may reasonably request in order to confirm, effectuate or record this Release.

Governing Law. This Release and any claim, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this Release and the transactions contemplated hereby shall be governed by, and construed in accordance with, the laws of the United States and the State of Maryland, without giving effect to any choice or conflict of law provision or rule (whether of the State of Maryland or any other jurisdiction).

<u>Electronic Delivery</u>. A signed copy of this Release delivered by facsimile, email, or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Release.

[SIGNATURE PAGE FOLLOWS]

2

IN WITNESS WHEREOF, Secured Party has caused this Release to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

HERCULES CAPITAL, INC.

Name: Zhuo Huang

Title: Associate General Counsel

SCHEDULE 1

PATENTS

119557-03202	119557-03201	119557-03120	119557-03104	119557-03103	119557-03102	119557-03101	119557-03020	119557-03003	119557-03002	119557-03001	Opokes Narreber
S	US	WO	US	SU	SU	Sn	WO	US	SI	Sn	COUNTY OF THE PERSON NAMED IN COUNTY
United States of America	United States of America	Patent Cooperation Treaty	United States of America	United States of America	United States of America	United States of America	Patent Cooperation Treaty	United States of America	United States of America	United States of America	Cauern/Name
11/741797	60/797075	PGT/US2007/067739	13/271624	12/476590	11/741796	60/797076	PGT/US2007/067725	13/304604	11/510152	60/797074	Application #
30-Apr-2007	01-May-2006	30-Apr-2007	12-Oct-2011	02-Jun-2009	30-Apr-2007	01-May-2006	30-Apr-2007	25-Nov-2011	24-Aug-2006	01-May-2006	-dong Date
COMPOSITIONS AND METHODS FOR TREATING AR PREVENTING INFLAMMATORY BOWEL DISEASE. FAMILIAL ADENOMATOLS POLYPOSIS AND COLON CANCER	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILIAL ADENOMATOUS POLYPOSIS AND COLON CANCER	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	METHOD FOR THEATMENT OF 12-Oct-2011 CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	METHOD FOR THEATMENT OF CONSTITUENT OF BOWEL SYNDROME	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	METHOD FOR TREATMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME	METHOD FOR TREATMENT OF DIARRHEA- PREDOMINANT IRRITABLE BOWEL SYNDROME	METHOD FOR TREATMENT OF DIARRHEA- PREDOMNANT IRRITABLE BOWEL SYNDROME	METHOD FOR TREATMENT OF DIARRHEA- PREDOMINANT IRRITABLE BOWEL SYNDROME	METHOD FOR TREATMENT OF DIARRHEA- PREDOMINANT IRRITABLE BOWEL SYNDROME	Apolitedion Title
US 2009- 0031984 A1		WO 2007/130892	US-2012- 0128797-A1		US 2008- 0031983 A1		WO/2007/1308 82	US-2012- 0189720-A1	US-2007- 0254050-A1		Publication #
07-Feb-2008		15-Nov-2007	24-May-2012		07-Feb-2008		15-Nov-2007	26-Jul-2012	01-Nov-2007		Publication # Publication Gass
8852649				8067041	7556831			8,846,113			300
07-Oct-2014				29-Nov-2011	07-Jul-2009			30-Sep-2014			Issue Date
N/A			N/A	None	None	N/A	N/A	NA	N/A	N/A	Oppositions/Pass
Napo Pharmaceuticals, Inc.		Napo Pharmaceuticals, Inc. and Trine Pharmaceuticals, Inc.	Napo Pharmaceuticals, inc. [Assignment not available Continuation of USP 8067041}	Napo Pharmaceuticals, Inc. (Assignment not available, Listed on face of Patent)	Napo Pharmaceuticals, Inc.		Napo Pharmaceuticals, Inc. and Trine Pharmaceuticals, Inc.	Napo Pharmaceuticals, inc. inc. Assignment not available. Continuation of US 11/510,152	Napo Pharmaceuticals, Inc.		Aesignee
Granted Notice of Allowance - June 5, 2014 Nonfinal Rejection - December 23, 2013	Expired	National	Pending Awaiting First Action	Granted	Granted	Expired	National	Granted Notice of Allowance - May 23, 2014 Response to OA filed May 8, 2014	Abandoned on December 14, 2011	Expired	

US_ACTIVE-123062546 v1

	119557-03309	119557-03308	119557-03307	119557-03306	119557-03305	119557-03304	119557-03303	119557-03302	119557-03301	119557-03220	
	SU	Sn	SU	Sn	Sn	SU	Sn	Sn	Sn	wo	SS.
United States of America	United States of America	United States of America	United States of America	United States of America	United States of America	United States of America	United States of America	United States of America	United States of America	Patent Cooperation Treaty	United States of America
14/023598	12/175131	11/998171	11/998170	10/919969	09/712033	09/066989	08/730772	08/559396	60/005370	PGT/US2007/067741	14/476,236
11-Sep-2013	17-Jul-2008	28-Nov-2007	28-Nov-2007	17-Aug-2004	14-Nov-2000	23-Apr-1998	16-Oct-1996	15-Nov-1995	13-Oct-1995	30-Apr-2007	03-Sep-2014
COMPOSITIONS AND METHODS OF THE ATMENT WITH POLYMER PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	COMPOSITIONS AND METHODS OF TREATMENT WITH PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	METHOD OF TREATMENT WITH PROANTHOGYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	METHOD OF TREATING SECRETIORY DIARRHEA WITH ENTERIC FORMULATIONS OF PROMITHOCYMNIDIN POLYMER	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL GOMPOSITIONS	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	USE OF PROANTHOCYANIDIN POLYMERIC COMPOSITIONS FOR TREATMENT OF SECRETORY DIARRHEAS	USE OF PROANTHOCYANIDIN POLYMERIC COMPOSITIONS FOR TREATMENT OF SECRETORY DIARRHEAS	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING INFLAMMATORY BOWEL DISEASE, FAMILAL ADENOMATOUS POLYPOSIS AND COLON CANCER	COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING METHODS FOR MEHAMMATORY BOWEL DISEASE, FAMILIAL ADENMATIOUS POLYPOSIS AND COLON CANCER
US2014001186 9	US-2009- 0148397 A1			US 2005-						80E1/200Z/OM	
09-Jan-2014	11-Jun-2009			27-Jan-2005						15-Nov-2007	
	8574634 B2			7323195	7341744						
	15-Nov-2013			29-Jan-2008	11-Mar-2008						
		N/A	N/A		9/5/2008 - Napo Pharmaceuticals, Inc. v. Dudas, Docket No. 1:08cv1542, District of Columbia						
Napo Pharmaceuticals, Inc.	Napo Pharmaceuticals, Inc.			Napo Pharmaceuticals, Inc.	Napo Pharmaceuticals, Inc.	Shaman Pharmaceuticals, inc.					
Abandoned 5/13/14 - EOT filed in favor of CON	Granted	Abandoned on September 2, 2008	Abandoned on September 9, 2008	Granted 2/28/13 - PTE for 1096 days filed	Granted Court Proceedings terminated on 5/19/10 2/28/13 - PTE of 1075 days filed	Abandoned on January 11, 2001	Abandoned - Not Publicly Available	Not Publicly Available	Expired	National	Pending - Divisional of US 11/741,797 Application filed on September 3, 2014

APPENDIX 1.28
LICENSED PATENT RIGHTS

119557-06020	119557-06007	119557-06006	119557-06005	119557-06004	119557-06003	119557-06002	119557-06001	119557-03420	119557-03402	119557-03401	119557-03320	
WO	S	SU	Sn	US	SN	Sn	SI	wo	SU	US	WO	
Patent Cooperation Treaty	United States of America	United States of America	United States of America	United States of America	United States of America	United States of America	United States of America	Patent Cooperation Treaty	United States of America	United States of America	Patent Cooperation Treaty	United States of America
PCT/US2011/058549	14/307175	13/285397	13/294307	61/434379	61/416249	61/409335	61/408622	PCT/US1991/007679	08/194779	07/737077	PCT/US1997/018845	14/276231
31-Oct-2011	17-Jun-2014	31-Oct-2011	11-Nov-2011	19-Jan-2011	22-Nov-2010	02-Nov-2010	31-Oct-2010	10-Oct-1991	09-Feb-1994	29-Jul-1991	14-Oct-1997	13-May-2014
METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIAFRHEA	METHODS AND COMPOSITIONS FOR TREATING HIVASSOCIATED DIARRHEA	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	PROANTHOCYANIDIN POLYMERS HAVING ANTIVIRAL ACTIVITY AND METHODS OF OBTAINING SAME	METHODS FOR USING PROANTHOCYANIDIN POLYMERS HAVING ANTIVIRAL ACTIVITY	METHODS FOR USING PROANTHOCYANIDIN POLYMERS HAVING ANTIVIRAL ACTIVITY	ENTERIC FORMULATIONS OF PROANTHOCYANIDIN POLYMER ANTIDIARRHEAL COMPOSITIONS	COMPOSITIONS AND METHODS OF TREATMENT WITH PROANTHOCYANION POLYMER ANTIDIARRHEAL COMPOSITIONS			
WO2012/0586 64	US 2014- 0294903 A1	US 2012- 0184605 A1	US-2012- 0107370 A1					WO/1992/0066 95			WO 1998/16111	
03-May-2012	02-Oct-2014	19-Jul-2012	03-May-2012					30-Apr-1992			23-Apr-1998	
									5494661	5211944		
									27-Feb-1996	18-May-1993		
N/A		N/A	N/A	N/A	N/A	N/A	N/A					
Salix Pharmaceuticals, Ltd. And Napo Pharmaceuticals, Inc.	Salix Pharmacouticals, Ltd. And Napo Pharmacouticals, Inc.	Salix Pharmaceuticals, Ltd. And Napo Pharmaceuticals, inc.	Salix Pharmaceuticals, Ltd. And Napo Pharmaceuticals, Inc.					Napo Pharmaceuticals,	Napo Pharmaceuticals, Inc.	Napo Pharmaceuticals, Inc.		Napo Pharmacouticals, inc.
National	Pending (CON of US 13/294,307) Continuation application filed on June 17, 2014 Application published on published on published 2, 2014	Abandoned in favor of CON 03/13/14 - Final Rejection	Pending 12/17/13 - Final Rejection	Expired	Expired	Expired	Expired	National	Expired	Expired	National	Pending CON of US 14/023593 - Iiled on May 13, 2014 Notice to Correct Application Papers - May 28, 2014

Pending						METHODS OF TREATING DIARRHEA AND PROMOTING INTESTINAL HEALTH IN NON-HUMAN ANIMALS	26-Feb-15	62/121,308	United States of America	S	21605-105002P3
Pending	Jaguar Animal Health (Reel/Frame: 034907/0950, February 6, 2015)					METHODS OF TREATING DIARRHEA IN NEONATAL AND YOUNG NON-HUMAN ANIMALS	3-Dec-14	62/087,203	United States of America	SU	21605-105002P2
Pending	Jaguar Animal Health (Reel/Frame: 032993/0382, May 30, 2014)					METHODS OF TREATING DIARRHEA IN NEONATAL AND YOUNG NON-HUMAN ANIMALS	29-May-14	62/004,641	United States of America	SU	21605-105002
National	Napo Pharmaceuticals, Inc.			26-Oct-12	2012145749	PHARMACOLOGICALLY OPTIMIZED MULTIMODAL DRUG DELIVERY SYSTEM FOR NORDIHYDROGUIARETIC ACID (NDGA)	23-Apr-12	PCT/US2012/034675	Patent Cooperation Treaty	wo	
Pending 5/8/14 - Final Rejection	Napo Pharmaceuticals, Inc.	N/A		17-Oct-13	US- 20130274346	PHARMACOLOGICALLY OPTIMIZED MULTIMODAL DRUG DELIVERY	6-Jun-13	13/911893	United States of America	US	
Pending Awaiting further Action from USPTO 1/7/14 - Supplemental Response filed	Napo Pharmaceuticals, Inc.	N/A		1-Oct-13	US2013001147 8	PHARMACOLOGICALLY OPTIMIZED MULTIMODAL DRUG DELIVERY	23-Apr-12	13/453618	United States of America	S	
Expired						METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	07-Dec-2012	61/734901	United States of America	US	119557-06401
Pending 2/27/14 - Nonfinal Rejection	The Regents of the University of California and Napo Pharmaceuticals, Inc.			09-Aug-2012	20120202876	METHODS OF TREATING DISEASES WITH PROANTHOCYANIDN OLIGOMERS SUCH AS CROFELEMER	05-Oct-2010	13/500589	United States of America	SU	
National	The Regents of the University of California and Napo Pharmaceuticals, Inc.			14-Apr-2011	2011044167	METHODS OF TREATING DISEASES WITH 05-Oct-2010 PROANTHOCYANIDIN OLIGOMERS SUCH AS CROFELEMER	05-Oct-2010	PCT/US2010/051530	Patent Cooperation Treaty	ow	
Pending Notice informing Application of the Communication of the infl application - the 10, 2014 Notice of Publication - June 12, 2014	Salix Pharmaceuricals, Ltd. And Napo Pharmaceuricals, Inc.			12-Jun-2014	WO2014/0886 29	METHODS AND COMPOSITIONS FOR TREATING HIV-ASSOCIATED DIARRHEA	15-Mar-2013	PCT/US2013/032395	Patent Cooperation Treaty	wo	119557-06420

APPENDIX 1.28
LICENSED PATENT RIGHTS

US_ACTIVE-123062546 v1

US_ACTIVE-123062546 v1

RECORDED: 04/10/2018