PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SHIRE HUMAN GENETIC THERAPIES, INC.	07/21/2017
LOTUS TISSUE REPAIR, INC.	07/21/2017

RECEIVING PARTY DATA

Name:	PHOENIX TISSUE REPAIR, INC.		
Street Address:	P.O. BOX 370		
City:	ANDOVER		
State/Country:	MASSACHUSETTS		
Postal Code:	01810		

PROPERTY NUMBERS Total: 21

Property Type	Number
Application Number:	61514796
Application Number:	14236403
Application Number:	15596447
Application Number:	61723372
Application Number:	14440958
Application Number:	61746421
Application Number:	14655251
Application Number:	61673657
Application Number:	13946847
PCT Number:	US2013051390
Patent Number:	6733988
Application Number:	11247659
Application Number:	12556409
Patent Number:	7045600
Patent Number:	7932053
Application Number:	62309030
PCT Number:	US2017021815
Application Number:	62387241
Application Number:	62278816

PATENT REEL: 043447 FRAME: 0805

504526151

Property Type	Number	
Application Number:	62293209	
PCT Number:	US2016067995	

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	2118			
NAME OF SUBMITTER:	DEBRA J. KELLOM			
SIGNATURE:	/Debra J. Kellom/			
DATE SIGNED:	08/30/2017			

Total Attachments: 10

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PATENT ASSIGNMENT

This PATENT ASSIGNMENT, dated as of July 21, 2017 (this "Patent Assignment"), is made by and among PHOENIX TISSUE REPAIR, INC., a Delaware corporation ("Purchaser"), SHIRE HUMAN GENETIC THERAPIES, INC., a Delaware corporation ("Shire"), and LOTUS TISSUE REPAIR, INC., a Delaware corporation ("Lotus," and together with Shire, "Sellers" or each a "Seller"). Capitalized terms used but not defined in this Patent Assignment shall have the respective meanings ascribed to them in that certain Asset Purchase Agreement, dated as of the date hereof, by and among Purchaser and Sellers (the "Purchase Agreement").

WHEREAS, pursuant to and on the terms and conditions set forth in the Purchase Agreement, Sellers have agreed to assign to Purchaser all of Sellers' worldwide right, title and interest in and to all issued patents and pending patent applications (provisional or utility) and expired applications identified on <u>Schedule A</u> (including any and all inventions disclosed therein and any rights of priority thereto) and the right to recover for past, present or future infringement of any of the foregoing (collectively, the "<u>Transferred Patent Rights</u>"); and

WHEREAS, Purchaser desires to acquire all such right, title and interest in and to the Transferred Patent Rights.

NOW, THEREFORE, in consideration of the mutual promises set forth in the Purchase Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Sellers and Purchaser hereby agree as follows:

- 1. Each Seller hereby assigns, transfers, delivers and conveys to Purchaser, and Purchaser hereby accepts, all of such Seller's worldwide right, title and interest in, to, and under the Transferred Patent Rights.
- 2. Each Seller agrees to execute all necessary documents and to do all acts reasonably necessary to vest and confirm in Purchaser, its successors and assigns, the legal title to all Transferred Patent Rights, without further compensation but at the expense of Purchaser or its successors and assigns.
- 3. Sellers hereby authorize and request the Commissioner for Patents in the United States Patent and Trademark and the officials of corresponding entities or agencies in any applicable jurisdictions to (a) record and register this Patent Assignment to Purchaser, its successors and assigns, (b) record Purchaser, its successors and assigns as the assignee and owner of the Transferred Patent Rights, and (c) issue any and all patents or certificates of invention that may be granted upon any of the Transferred Patent Rights in the name of Purchaser, its successors and assigns, as the assignee to the entire interest therein.
- 4. Neither the representations and warranties nor the rights, remedies or obligations of the parties under the Purchase Agreement shall be deemed to be enlarged, modified or altered in any way by this Patent Assignment, and neither Sellers nor any of their Affiliates are making any representations or warranties of any kind whatsoever by virtue of, and shall have no liability

under, this Patent Assignment. Nothing herein shall be deemed to supersede or otherwise modify any provision of the Purchase Agreement. To the extent of any conflict between the provisions of this Patent Assignment and the Purchase Agreement, the provisions of the Purchase Agreement shall govern such conflict.

- 5. This Patent Assignment and any claims arising therefrom shall be governed by and construed in accordance with the law of the State of New York, without regard to the conflicts of law rules of such state. The parties hereto irrevocably submit to the exclusive jurisdiction of (a) the state courts of the State of New York and (b) the United States District Court for the Southern District of New York for the purposes of any suit, action or other proceeding arising out of this Patent Assignment and any transaction contemplated hereby. Each party hereto further agrees that service of any process, summons, notice or document by U.S. registered mail to such party's respective address(es) set forth in Section 7.05 of the Purchase Agreement shall be effective service of process for any action, suit or proceeding in New York with respect to any matters to which it has submitted to jurisdiction in this Section 5. Each party hereto irrevocably and unconditionally waives any objection to the laying of venue of any action, suit or proceeding arising out of this Patent Assignment or the transactions contemplated hereby in (i) the state courts of the State of New York, and (ii) the United States District Court for the Southern District of New York, and hereby further irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such action, suit or proceeding brought in any such court has been brought in an inconvenient forum.
- 6. This Patent Assignment may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Patent Assignment shall become effective when each party hereto shall have received a counterpart hereof signed by the other parties. Until and unless each party hereto has received a counterpart hereof signed by the other parties, this Patent Assignment shall have no effect and no party hereto shall have any right or obligation hereunder (whether by virtue of any other oral or written agreement or other communication). This Patent Assignment may be executed and delivered by facsimile or .pdf transmission.

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IN WITNESS WHEREOF, the parties hereto have caused this Patent Assignment to be duly executed as of the day and year first above written.

REEL: 043447 FRAME: 0809

IN WITNESS WHEREOF, the parties hereto have caused this Patent Assignment to be duly executed as of the day and year first above written.

PHOENIX TISSUE REPAIR, INC.				
By: N	lame:			
7	itle:			
	HUMAN (APIES, INC			
Ву:	Jen	12/1-		
	0.25E	ison E. Baranski		
*.	(a.c., 2)	ecretary and Director		
LOTU	S TISSUE F	REPAIR, INC.		
Ву:	<u> </u>			
N	lame/	Jason E. Baranski		
Ţ	itl ø :	Secretary and Director		
	8			

Schedule A

Title	Country	Application No.	Patent No.	Status
COLLAGEN 7 AND RELATED METHODS	Australia	2012289916		Pending
COLLAGEN 7 AND RELATED METHODS	Brazil	112014002546-0		Pending
COLLAGEN 7 AND RELATED METHODS	Canada	2,843,896		Pending
COLLAGEN 7 AND RELATED METHODS	China	201280047084.3		Pending
COLLAGEN 7 AND RELATED METHODS	Europe	12820654.7		Pending
COLLAGEN 7 AND RELATED METHODS	Hong Kong	14107350.3		Pending
COLLAGEN 7 AND RELATED METHODS	India	769/DELNP/2014		Pending
COLLAGEN 7 AND RELATED METHODS	Japan	2014-524112		Pending
COLLAGEN 7 AND RELATED METHODS	South Korea	10-2014-7005544		Pending
COLLAGEN 7 AND RELATED METHODS	Mexico	MX/a/2014/001383		Pending
COLLAGEN 7 AND RELATED METHODS	USA	61/514,796		Expired
COLLAGEN 7 AND RELATED METHODS	USA	14/236,403		Pending
COLLAGEN 7 AND RELATED METHODS	USA	15/596,447		Pending
COLLAGEN 7 AND RELATED METHODS	PCT	PCT/US2012/049553		Expired
COLLAGEN IV BINDING ASSAY FOR THE DETECTION OF COLLAGEN VII	Europe	13853466.4		Pending
COLLAGEN IV BINDING ASSAY FOR THE DETECTION OF COLLAGEN VII	Hong Kong	16103059.4		Pending
COLLAGEN IV BINDING ASSAY FOR THE DETECTION OF COLLAGEN VII	USA	61/723,372		Expired

ACTIVE/91041411.5

Title	Country	Application No.	Patent No.	Status
COLLAGEN IV BINDING ASSAY FOR THE DETECTION OF COLLAGEN VII	USA	14/440,958		Pending
COLLAGEN IV BINDING ASSAY FOR THE DETECTION OF COLLAGEN VII	PCT	PCT/US2013/068971		Expired
ADMINISTRATION OF RECOMBINANT COLLAGEN 7 FOR THE TREATMENT OF AGE RELATED DISORDERS	Australia	2013370471		Pending
ADMINISTRATION OF RECOMBINANT COLLAGEN 7 FOR THE TREATMENT OF AGE RELATED DISORDERS	Canada	2,895,503		Pending
ADMINISTRATION OF RECOMBINANT COLLAGEN 7 FOR THE TREATMENT OF AGE RELATED DISORDERS	Europe	13868964.1		Pending
ADMINISTRATION OF RECOMBINANT COLLAGEN 7 FOR THE TREATMENT OF AGE RELATED DISORDERS	Hong Kong	16104879.0.		Pending
ADMINISTRATION OF RECOMBINANT COLLAGEN 7 FOR THE TREATMENT OF AGE RELATED DISORDERS	Japan	2015-550734		Pending
ADMINISTRATION OF RECOMBINANT COLLAGEN 7 FOR THE TREATMENT OF AGE RELATED DISORDERS	USA	61/746,421		Expired
ADMINISTRATION OF RECOMBINANT COLLAGEN 7 FOR THE TREATMENT OF AGE RELATED DISORDERS	USA	14/655,251		Pending

Title	Country	Application No.	Patent No.	Status
ADMINISTRATION OF RECOMBINANT COLLAGEN 7 FOR THE TREATMENT OF AGE RELATED DISORDERS	PCT	PCT/US2013/077479		Expired
RECOMBINANT C7 AND METHODS OF USE	USA	61/673,657		Expired
RECOMBINANT C7 AND METHODS OF USE	USA	13/946,847		Pending
RECOMBINANT C7 AND METHODS OF USE	PCT	PCT/US2013/051390		Expired
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Austria	2077574.8	1375510	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Belgium	02077574.8	1375510	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Switzerland	02077574.8	1375510	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Germany	02077574.8	60226959.8	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Denmark	02077574.8	1375510	Issued

Title	Country	Application No.	Patent No.	Status
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Europe	02077574.8	1375510	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	France	02077574.8	1375510	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Great Britain	02077574.8	1375510	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Ireland	02077574.8	1375510	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Netherlands	02077574.8	1375510	Issued
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	Sweden	02077574.8	1375510	Issued
INHIBITION OF TELOPEPTIDE IYSYL HYDROXYLASE ACTIVITY OR PRODUCTION AS ANTI-FIBROTIC THERAPY	USA	09/450,209	6,733,988	Issued

Title	Country	Application No.	Patent No.	Status
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	USA	11/247,659		Abandoned
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	USA	12/556,409		Abandoned
MODIFICATION OF COLLAGENOUS MATERIALS AND MEDICAL TREATMENT, DIAGNOSIS AND MONITORING OF FIBROTIC CONDITIONS	USA	10/184,372	7,045,600	Issued
METHOD FOR PREPARING MODIFIED COLLAGEN OUTSIDE A HOST CELL	USA	11/547,822	7,932,053	Issued
METHODS OF PURIFYING COLLAGEN 7	USA	62/309,030		Expired
METHODS OF PURIFYING COLLAGEN 7	PCT	PCT/US2017/021815		Pending
COLLAGEN 7 COMPOSITIONS AND METHODS OF USING THE SAME	USA	62/387,241		Expired
COLLAGEN 7 COMPOSITIONS AND METHODS OF USING THE SAME	USA	62/278,816		Expired
COLLAGEN 7 COMPOSITIONS AND METHODS OF USING THE SAME	USA	62/293,209		Expired

Title	Country	Application No.	Patent No.	Status
COLLAGEN 7	PCT	PCT/US2016/067995		Pending
COMPOSITIONS AND				
METHODS OF USING THE				
SAME				

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RECORDED: 08/30/2017