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JUNE 19, 2018

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ASSIGNOR:

ALNYLAM PHARMACEUTICALS, INC.

DOC DATE: 06/08/2018

ASSIGNEE:

GENZYME CORPORATION
50 BINNEY STREET
CAMBRIDGE, MASSACHUSETTS 02142

APPLICATION NUMBER: 13837129

FILING DATE: 03/15/2013

PATENT NUMBER: 9127274

ISSUE DATE: 09/08/2015

TITLE: SERPINC1 IRNA COMPOSITIONS AND METHODS OF USE THEREOF

APPLICATION NUMBER: 14806084

FILING DATE: 07/22/2015

PATENT NUMBER: 9376680

ISSUE DATE: 06/28/2016

TITLE: SERPINC1 IRNA COMPOSITIONS AND METHODS OF USE THEREOF

APPLICATION NUMBER: 15070358

FILING DATE: 03/15/2016

PATENT NUMBER:

ISSUE DATE:

TITLE: SERPINC1 IRNA COMPOSITIONS AND METHODS OF USE THEREOF

APPLICATION NUMBER: 15499981 FILING DATE: 04/28/2017
PATENT NUMBER: ISSUE DATE:
TITLE: POLYNUCLEOTIDE AGENTS TARGETING SERPINC1 (AT3) AND METHODS OF
USE THEREOF

APPLICATION NUMBER: 15955873 FILING DATE: 04/18/2018
PATENT NUMBER: ISSUE DATE:
TITLE: SERPINC1 IRNA COMPOSITIONS AND METHODS OF USE THEREOF

APPLICATION NUMBER: 61638952 FILING DATE: 04/26/2012
PATENT NUMBER: ISSUE DATE:
TITLE: SERPINC1 IRNA COMPOSITIONS AND METHODS OF USE THEREOF

APPLICATION NUMBER: 61669249 FILING DATE: 07/09/2012
PATENT NUMBER: ISSUE DATE:
TITLE: SERPINC1 IRNA COMPOSITIONS AND METHODS OF USE THEREOF

APPLICATION NUMBER: 61734573 FILING DATE: 12/07/2012
PATENT NUMBER: ISSUE DATE:
TITLE: SERPINC1 IRNA COMPOSITIONS AND METHODS OF USE THEREOF

APPLICATION NUMBER: 61992057 FILING DATE: 05/12/2014
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND COMPOSITIONS FOR TREATING A SERPINC1-ASSOCIATED
DISORDER

APPLICATION NUMBER: 62072686 FILING DATE: 10/30/2014
PATENT NUMBER: ISSUE DATE:
TITLE: ANTISENSE POLYNUCLEOTIDE AGENTS TARGETING SERPINC1 (AT3) AND
METHODS OF USE THEREOF

APPLICATION NUMBER: 62089018 FILING DATE: 12/08/2014
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND COMPOSITIONS FOR TREATING A SERPINC1-ASSOCIATED
DISORDER

APPLICATION NUMBER: 62102281 FILING DATE: 01/12/2015
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND COMPOSITIONS FOR TREATING A SERPINC1-ASSOCIATED
DISORDER

APPLICATION NUMBER: 62530518 FILING DATE: 07/10/2017
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND COMPOSITIONS FOR TREATING A BLEEDING EVENT IN A
SUBJECT HAVING HEMOPHILIA

APPLICATION NUMBER: 62599223 FILING DATE: 12/15/2017
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND COMPOSITIONS FOR TREATING A BLEEDING EVENT IN A
SUBJECT HAVING HEMOPHILIA

APPLICATION NUMBER: 62614111 FILING DATE: 01/05/2018
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND COMPOSITIONS FOR TREATING A BLEEDING EVENT IN A
SUBJECT HAVING HEMOPHILIA

APPLICATION NUMBER: 62673424 FILING DATE: 05/18/2018
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND COMPOSITIONS FOR TREATING A BLEEDING EVENT IN A
SUBJECT HAVING HEMOPHILIA

APPLICATION NUMBER: FILING DATE: 04/25/2013
PATENT NUMBER: ISSUE DATE:
PCT NUMBER: US2013038218
TITLE: SERPINC1 IRNA COMPOSITIONS AND METHODS OF USE THEREOF

APPLICATION NUMBER: FILING DATE: 05/12/2015
PATENT NUMBER: ISSUE DATE:
PCT NUMBER: US2015030337
TITLE: METHODS AND COMPOSITIONS FOR TREATING A SERPINC1-ASSOCIATED
DISORDER

APPLICATION NUMBER: FILING DATE: 10/28/2015
PATENT NUMBER: ISSUE DATE:
PCT NUMBER: US2015057717
TITLE: POLYNUCLEOTIDE AGENTS TARGETING SERPINC1 (AT3) AND METHODS OF
USE THEREOF

ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

ASSIGNMENT

For valuable consideration, the receipt of which is hereby acknowledged, and intending to be bound legally, **Alnylam Pharmaceuticals, Inc.**, a corporation formed under the laws of the State of Delaware and having a principal place of business at 300 Third Street, 3rd Floor, Cambridge, Massachusetts 02142, USA (the “Assignor”), assigns **Genzyme Corporation**, a corporation formed under the laws of Massachusetts and having a principal place of business at 50 Binney Street, Cambridge, Massachusetts 02142, USA, and its successors, transferees, and assignees (collectively the “Assignee”), all of its rights, titles, and interests throughout the world in the subject matter (the “Subject Matter”) disclosed or claimed in the patents and applications listed in Schedule A (the “Patents and Applications”).

This Assignment, effective as of February 20, 2018, assigns (a) the Patents and Applications and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors’ certificates for, any of the Subject Matter (collectively the “Patents, Applications, and Granted Rights”) in every country or region, (b) the right to claim priority based on and the benefit of the filing date of any of the Patents, Applications, and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee’s name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Patents, Applications, and Granted Rights, and any other rights assigned by this Assignment.

Assignor authorizes the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Patents, Applications, and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in the Assignor’s name or in the Assignee’s name.

Assignor represents and warrants that it has the right and power to make this Assignment and that it has not made and will not make any other assignment that conflicts with this Assignment.

Assignor will communicate to the Assignee (or at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter, will execute and provide all

oaths and declarations, statements, testimony, assignments, powers of attorney, applications, and documents, and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment.

Signed at Cambridge, MA (US) on this 8th day of June, 2018.
(City, State and Nation)

Alnylam Pharmaceuticals Inc.

By: 

Name: Steven Bossone

Title: Vice President, Intellectual Property

ASSIGNMENT OF RIGHTS ACCEPTED BY Genzyme Corporation

Signed at Cambridge MA, USA on this 11 day of June, 2018.
(City, State and Nation)

By: 

Name: Brian R. Morrill

Title: Authorized Signatory, Associate Vice President, Head of U.S. Pharma Patents

SCHEDULE A

<u>Pat./Pub. No.</u>	<u>App. No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Title</u>
Not Applicable	61/638,952	US	April 26, 2012	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	61/669,249	US	July 9, 2012	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	61/734,573	US	December 7, 2012	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
9,127,274	13/837,129	US	March 15, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
9,376,680	14/806,084	US	July 22, 2015	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
US 20160257954	15/070,358	US	March 15, 2016	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	15/955,873	US	April 18, 2018	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
WO 2013/163430	PCT/US2013/038218	WO	April 25, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
0090869	P20130101440	AR	April 26, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF

Not Applicable	2013251494	AU	October 13, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	2018200469	AU	January 19, 2018	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	BR112014026758-8	BR	April 25, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	2869922	CA	October 7, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
02869-2014	02869-2014	CL	October 23, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
188	00188-2016	CL	January 25, 2016	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
104520310	201380034051.X	CN	December 25, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
14-259376	14-259376	CO	November 25, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
2841443	13782531.1	EP	October 29, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
HK1204336	15104785.4	HK	May 19, 2015	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE

Not Applicable	7631/CHENP/2014	IN	October 16, 2014	THEREOF SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	P00201407285	ID	November 21, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	234941	IL	April 25, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	2015-509141	JP	April 25, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	10-2014-7032288	KR	April 25, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	MX/a/2014/012946	MX	April 25, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	2014147563	RU	April 25, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	2014/07293	ZA	October 8, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	1401006433	TH	April 25, 2013	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	1605/2014	EG	October 9, 2014	SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE

Not Applicable	J/001665	MO	February 11, 2015	THEREOF SERPINC1 iRNA COMPOSITIONS AND METHODS OF USE THEREOF
Not Applicable	61/992,057	US	May 12, 2014	METHODS AND COMPOSITIONS FOR TREATING A SERPINC1- ASSOCIATED DISORDER
Not Applicable	62/089,018	US	December 8, 2014	METHODS AND COMPOSITIONS FOR TREATING A SERPINC1- ASSOCIATED DISORDER
Not Applicable	62/102,281	US	January 12, 2015	METHODS AND COMPOSITIONS FOR TREATING A SERPINC1- ASSOCIATED DISORDER
WO 2015/175510	PCT/US2015/030337	WO	May 12, 2015	METHODS AND COMPOSITIONS FOR TREATING A SERPINC1- ASSOCIATED DISORDER
201607559	104114993	TW	May 12, 2015	METHODS AND COMPOSITIONS FOR TREATING A SERPINC1- ASSOCIATED DISORDER
Not Applicable	62/072,686	US	October 30, 2014	ANTISENSE POLYNUCLEOT IDE AGENTS TARGETING SERPINC1 (AT3) AND METHODS OF USE THEREOF
US 2017-0240892-A1	15/499,981	US	April 28, 2017	POLYNUCLEOT IDE AGENTS TARGETING SERPINC1 (AT3)

				AND METHODS OF USE THEREOF
W0 2016/069694	PCT/US2015/057717	WO	October 28, 2015	POLYNUCLEOTIDE AGENTS TARGETING SERPINC1 (AT3) AND METHODS OF USE THEREOF
3212794	15795074.2	EP	October 28, 2015	POLYNUCLEOTIDE AGENTS TARGETING SERPINC1 (AT3) AND METHODS OF USE THEREOF
Not Applicable	62/530,518	US	July 10, 2017	METHODS AND COMPOSITIONS FOR TREATING A BLEEDING EVENT IN A SUBJECT HAVING HEMOPHILIA
Not Applicable	62/599,223	US	December 15, 2017	METHODS AND COMPOSITIONS FOR TREATING A BLEEDING EVENT IN A SUBJECT HAVING HEMOPHILIA
Not Applicable	62/614,111	US	January 5, 2018	METHODS AND COMPOSITIONS FOR TREATING A BLEEDING EVENT IN A SUBJECT HAVING HEMOPHILIA
Not Applicable	62/673,424	US	May 18, 2018	METHODS AND COMPOSITIONS FOR TREATING A BLEEDING EVENT IN A SUBJECT HAVING HEMOPHILIA

Not Applicable	2016/32519	GCC	December 7, 2016	METHODS AND COMPOSITIONS FOR TREATING A SERPINC1-ASSOCIATED DISORDER
201726148	105140410	TW	December 7, 2016	METHODS AND COMPOSITIONS FOR TREATING A SERPINC1-ASSOCIATED DISORDER