

PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT5289838

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	GENZYME CORPORATION	05/29/2012
RECEIVING PARTY DATA		
Name:	ISIS PHARMACEUTIALCS, INC.	
Street Address:	2855 GAZELLE COURT	
City:	CARLSBAD	
State/Country:	CALIFORNIA	
Postal Code:	92010	
PROPERTY NUMBERS Total: 1		
	Property Type	Number
	Application Number:	15596249
CORRESPONDENCE DATA		
Fax Number:	(312)913-0002	
<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:	3129130001	
Email:	docketing@mbhb.com	
Correspondent Name:	MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP	
Address Line 1:	300 S. WACKER DRIVE	
Address Line 2:	SARAH E. FENDRICK	
Address Line 4:	CHICAGO, ILLINOIS 60606	
ATTORNEY DOCKET NUMBER:	18-1153-US-CON2	
NAME OF SUBMITTER:	SARAH E. FENDRICK	
SIGNATURE:	/Sarah E. Fendrick/	
DATE SIGNED:	12/18/2018	
Total Attachments: 6		
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PATENT ASSIGNMENT

WHEREAS, Genzyme Corporation (“Assignor”), a Massachusetts corporation, having a place of business at 500 Kendall Street, Cambridge, Massachusetts 02142 is a co-owner of all right, title, and interest in and to certain patent applications set forth in Exhibit A (“Patents”), which Exhibit A is attached hereto and hereby made a part hereof; and

WHEREAS, Isis Pharmaceuticals, Inc. (“Assignee”), a Delaware corporation, having a place of business at 2855 Gazelle Court, Carlsbad, California 92010, is desirous of acquiring Assignor’s entire right, title, and interest in and to the Patents and all the inventions and discoveries disclosed in the Patents (“Inventions”);

NOW THEREFORE, BE IT KNOWN, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, said Assignor hereby sells, assigns, transfers, and sets over unto Assignee

(1) Assignor’s entire right, title, and interest in all countries throughout the world in and to said Patents and Inventions, including without limitation any renewals, revivals, reissues, reexaminations, extensions, continuations, continuations-in-part, and divisional, and registrations of said Patents and any substitute applications therefor;

(2) Assignor’s entire right to file patent applications (“New Applications”) in the name of Assignee or its designee, or in the name of Assignor at Assignee’s or its designee’s election, on the aforesaid Patents in all countries of the world;

(3) Assignor’s entire right, title, and interest in and to any patent which issued and may issue on the Inventions in any country, and any renewals, revivals, reissues, reexaminations, and extensions thereof, and any patents of confirmation, registration, and importation of the same;

(4) Assignor’s right to sue and recover for, and the right to profits or damages due or accrued in connection with, any and all past, present, or future infringements of the Patents and Inventions; and

(5) Assignor’s entire right, title, and interest in all convention and treaty rights of all kinds, including without limitation all rights of priority in any country of the world, in and to the above Patents and Inventions;

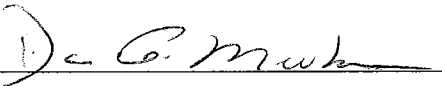
AND, Assignor hereby authorizes and requests the competent authorities to grant and to issue any and all patents on the Inventions throughout the world to Assignee, its successors, or assigns, whose rights, title, and interests in such patents are the same as would have been held and enjoyed by Assignor had this assignment, sale and transfer not been made.

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IN WITNESS of which the parties have executed this Assignment in accordance with the statutes by duly authorized officers as of the date of the later of the parties' signatures.

EXECUTED by the ASSIGNOR

GENZYME CORPORATION

Signature: 

Name: David P. Meeker

Title: President and Chief Executive Officer

Date: 5/29/2012

In the presence of a Notary Public

EXECUTED by the ASSIGNEE

ISIS PHARMACEUTICALS, INC.

Signature: 

Name: Patrick R. O'Neil

Title: Vice President, Legal
General Counsel

Date: 5-30-2012

In the presence of a Notary Public



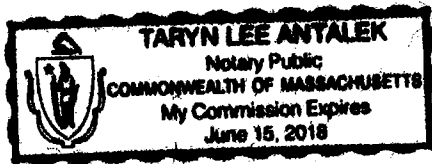
Comm of Massachusetts

SS.

County of Middlesex

On May 29, 2012, before me the undersigned, personally appeared David P. Meeker, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the Commonwealth of Massachusetts that the foregoing paragraph is true and correct.



WITNESS my hand and official seal

Taryn Lee Antalek
Notary Public

[SEAL]

State of California

SS.

County of San Diego

On May 30, 2012 before me, Laura L. Eames, Notary Public,
personally appeared Patrick R. O'Neil, who is proved to me on the basis of satisfactory evidence to be the person whose
name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity,
and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the
instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and
correct.

WITNESS my hand and official seal.



Laura L. Eames
Signature of Notary

Exhibit A

Isis Docket Number	Country	Serial Number	Filing Date	Title
BIOL0113AU	Australia	2010292003	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113BR	Brazil	BR112012005448-1	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113CA	Canada	2,773,886	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113CN	China P.R.	TBD China National of PCT/US2010/048532	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113EP	European Patent Convention	10816206.6	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113IL	Israel	TBD Israel National of PCT/US2010/048532	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113IN	India	TBD India National of PCT/US2010/048532	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113JP	Japan	TBD Japan National of PCT/US2010/048532	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113KR	Korea South	10-2012-7009137	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113MX	Mexico	MX/a/2012/003006	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113NZ	New Zealand	599032	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113RU	Russian Federation	2012114198	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113US.L	United States	61/241,853	09/11/2009	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113USA	United States	13/395,188	03/09/2012	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0113WO	Patent Cooperation Treaty	PCT/US2010/048532	09/10/2010	MODULATION OF HUNTINGTIN EXPRESSION
BIOL0122US.L	United States	61/327,601	04/23/2010	MODULATION OF GLUCOSYLCERAMIDE SYNTHASE (GCS) EXPRESSION
BIOL0122WO	Patent Cooperation Treaty	PCT/US2011/033645	04/22/2011	MODULATION OF GLUCOSYLCERAMIDE SYNTHASE (GCS) EXPRESSION
BIOL0126US.L	United States	61/327,594	04/23/2010	MODULATION OF GM3 SYNTHASE (GM3S) EXPRESSION
BIOL0126WO	Patent Cooperation Treaty	PCT/US2011/033648	04/22/2011	MODULATION OF GM3 SYNTHASE (GM3S) EXPRESSION

Isis Docket Number	Country	Serial Number	Filing Date	Title
BIOL0127US.L	United States	61/327,605	04/23/2010	MODULATION OF LACTOSYLCERAMIDE SYNTHASE (LCS) EXPRESSION
BIOL0127WO	Patent Cooperation Treaty	PCT/US2011/033653	04/22/2011	MODULATION OF LACTOSYLCERAMIDE SYNTHASE (LCS) EXPRESSION
BIOL0134US.L	United States	61/365,762	07/19/2010	MODULATION OF DYSTROPHIA MYOTONICA-PROTEIN KINASE (DMPK) EXPRESSION
BIOL0134US.L2	United States	61/478,021	04/21/2011	MODULATION OF DYSTROPHIA MYOTONICA-PROTEIN KINASE (DMPK) EXPRESSION
BIOL0134WO	Patent Cooperation Treaty	PCT/US2011/044555	07/19/2011	MODULATION OF DYSTROPHIA MYOTONICA-PROTEIN KINASE (DMPK) EXPRESSION