

## PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Susan M. Freier</td> <td>03/01/2012</td> </tr> <tr> <td>Eric E. Swayze</td> <td>03/01/2012</td> </tr> </tbody> </table>		Name	Execution Date	Susan M. Freier	03/01/2012	Eric E. Swayze	03/01/2012				
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RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>Isis Pharmaceuticals, Inc.</td> </tr> <tr> <td>Street Address:</td> <td>2855 Gazelle Court</td> </tr> <tr> <td>City:</td> <td>Carlsbad</td> </tr> <tr> <td>State/Country:</td> <td>CALIFORNIA</td> </tr> <tr> <td>Postal Code:</td> <td>92010</td> </tr> </table>		Name:	Isis Pharmaceuticals, Inc.	Street Address:	2855 Gazelle Court	City:	Carlsbad	State/Country:	CALIFORNIA	Postal Code:	92010
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PROPERTY NUMBERS Total: 1											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>PCT Number:</td> <td>US1224385</td> </tr> </tbody> </table>		Property Type	Number	PCT Number:	US1224385						
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PCT Number:	US1224385										
CORRESPONDENCE DATA											
<p>Fax Number: (760)603-3820          Phone: 760-603-2553          Email: leames@isisph.com  <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i></p> <p>Correspondent Name: Isis Pharmaceuticals, Inc.          Address Line 1: 2855 Gazelle Court          Address Line 4: Carlsbad, CALIFORNIA 92010</p>											
ATTORNEY DOCKET NUMBER:	CORE0094WO										
NAME OF SUBMITTER:	Laura Eames										
<p>Total Attachments: 4          source=CORE0094WOASGN#page1.tif          source=CORE0094WOASGN#page2.tif          source=CORE0094WOASGN#page3.tif          source=CORE0094WOASGN#page4.tif</p>											

CH \$40.00 US1224385

**ASSIGNMENT**

WHEREAS, I/we, **Susan M. Freier, of San Diego, CA, and Eric E. Swayze, of Encinitas, CA,** has/have invented a certain invention entitled **OLIGOMERIC COMPOUNDS COMPRISING BICYCLIC NUCLEOTIDES AND USES THEREOF**, for which I/we have made an application for patents in the United States and foreign jurisdictions through the Patent Cooperation Treaty, said application having been filed **February 8, 2012** and assigned Application No. **PCT/US2012/024385**; and

WHEREAS, **ISIS Pharmaceuticals, Inc.** hereinafter referred to as the assignee, of 2855 Gazelle Court, Carlsbad CA, a corporation of Delaware, desires to acquire the entire right, title and interest in and to the said inventions or improvements and in and to the said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries:

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00) to each of us in hand paid by said assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said assignors, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over to said assignee, the entire right, title and interest in and to said inventions or improvements and said application and any and all continuations, divisions and renewals of and substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in the United States and any and all other countries, and any reissue or reissues or extension or extensions of said Letters Patent, and assign to and authorize said assignee, to file in our names applications for Letters Patent in all countries, the same to be held and enjoyed by said assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

AND we hereby covenant that we have full right to convey the entire interest herein assigned, and that we have not executed and will not execute any agreement in conflict herewith, and we further covenant and agree that we will each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said inventions or improvements, said application and said Letters Patent to said assignee, its successors, assigns, nominees, or legal representatives, and each of us agrees to communicate to said assignee or to its nominee all known facts respecting said inventions or improvements, said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid said assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit proper patent protection for said inventions or improvements in any and all countries.

AND we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to said assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said inventions or improvements, including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

IN WITNESS WHEREOF, we have hereunto set our hands and seals.

Dated: 1-Mar 20 12

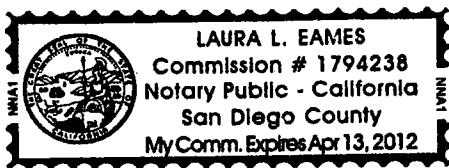
Susan M Freier  
Susan M. Freier

State of California )  
County of San Diego ) ss.

On March 1, 2012 before me, Laura L. Eames, Notary Public, personally appeared **Susan M. Freier**, who is proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(~~ies~~), and that by ~~his~~/her/~~their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) 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.



[Signature]  
Signature of Notary

DOCKET NO.: CORE0094WO

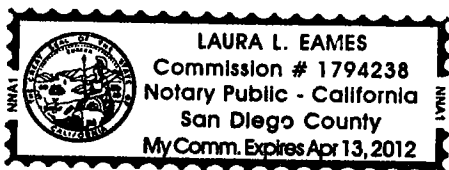
Dated: 3/1 2012

Eric E. Swayze  
Eric E. Swayze

State of California )  
 )  
County of San Diego ) ss.

On March 1, 2012 before me, Laura L Eames, Notary Public, personally appeared **Eric E. Swayze**, who is proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) 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.

[Signature]  
Signature of Notary

ASSIGNMENT - Page 4 of 4