

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Novartis Institutes for BioMedical Research Inc. (NIBRI)	07/22/2009
RECEIVING PARTY DATA	
Name:	Isis Pharmaceuticals, Inc.
Street Address:	1896 Rutherford Road
City:	Carlsbad
State/Country:	CALIFORNIA
Postal Code:	92008
PROPERTY NUMBERS Total: 2	
Property Type	Number
Patent Number:	5977332
Patent Number:	5750673
CORRESPONDENCE DATA	
Fax Number:	(760)603-3820
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
Phone:	760-603-2553
Email:	leames@isisph.com
Correspondent Name:	Isis Pharmaceuticals, Inc.
Address Line 1:	1896 Rutherford Road
Address Line 4:	Carlsbad, CALIFORNIA 92008
ATTORNEY DOCKET NUMBER:	NOVARTIS TO ISIS ASGN
NAME OF SUBMITTER:	Laura Eames
Total Attachments: 5 source=Novartis_Isis_ASGN#page1.tif source=Novartis_Isis_ASGN#page2.tif source=Novartis_Isis_ASGN#page3.tif	

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ASSIGNMENT

WHEREAS, Novartis Institutes for BioMedical Research Inc. (NIBRI) ("Assignor") is the successor in its entirety to Ciba-Geigy, sole owner of all right, title and interest in and to certain patents and/or patent applications set forth in Exhibit A ("Patents"), which Exhibit A is attached hereto and hereby made a part hereof;

WHEREAS, Assignor desires to assign the Patents and the Patents Rights (as defined below) to Isis Pharmaceuticals, Inc. ("Assignee"), a Delaware corporation, having a place of business at 1896 Rutherford Road, Carlsbad, California 92008, in accordance with that certain Amended and Restated Research, Development and Licensing Agreement entered into between Assignor and Assignee dated February 13, 1996 (the "Prior Agreement"); and

WHEREAS, Assignee is desirous of acquiring the entire right, title and interest in and to the Patents and the Patent Rights (as defined below);

NOW, THEREFORE, BE IT KNOWN, in consideration of the sum of Ten Dollars (\$10.00) to Assignor in hand paid, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor and Assignee agree to the following:

Article 1. Subject to the Retained Rights of the Assignor (pursuant to Article 2 below), Assignor hereby assigns to Assignee, its successors and assigns, the entire right, title and interest in and to the Patents set forth in Exhibit A, hereto annexed, including without limitation:

- (a) the Patent(s) in each jurisdiction in which the Patent(s) was/is validated and all patent applications, patents and supplementary protection certificates that may derive or result from the same, including any divisionals, continuations, continuation-in-parts, reissues, reexaminations, extensions and registrations in relation to any thereof and all and any other rights in inventions comprised in the above (together referred to as "Patent Rights");
- (b) the benefit of all priority rights of the Patents;
- (c) the right to seek and obtain registrations in other countries with respect to the Patents or any other patent included in the Patent Rights; and
- (d) the sole and exclusive benefit of any and all other rights and privileges incidental to ownership of the Patents and Patent Rights, including, without limitation, any proceeds resulting therefrom.

The Assignor agrees to execute any further documents and to do all things that the Assignee may require in order to vest or confirm the vesting in the Assignee (or the Assignee's successors in title or nominees as the case may be) of the Patents and all other Patent Rights in all relevant jurisdictions and of all other property right, title and interest intended to be assigned, transferred or granted to the Assignee hereunder and to give the Assignee the full benefit of this Assignment including doing all acts which may be necessary or desirable to record the Patents in the name of the Assignee in all relevant jurisdictions. The Assignor hereby authorizes the Assignee and the Assignee's agents to sign all such forms on behalf of the Assignor as the

Assignee considers appropriate in order to record the Patents and any other Patent Rights in the name of the Assignee.

Article 2. Assignee hereby acknowledges that the assignment set forth in Article 1 above is subject to the retained rights of the Assignor and its Affiliates to practice the Patent Rights on a world-wide, perpetual, irrevocable, non-exclusive, royalty-free, fully-paid up, non-transferable basis (the "Retained Rights"). The Assignor hereby acknowledges that the Retained Rights are sublicensable to the extent necessary to manufacture products for Assignor's or any of its Affiliate's internal use or to the extent necessary to manufacture products discovered or developed (including in-licensed products) by Assignor and its Affiliates for commercial sale. For the purpose of this Assignment, "Affiliate" shall mean any Person who directly or indirectly controls or is controlled by or is under common control with a party to this Agreement. For purposes of this definition, "control," "controls" or "controlled" means ownership directly or through one or more Affiliates, of fifty percent (50%) or more of the shares of stock entitled to vote for the election of directors, in the case of a corporation, or fifty percent (50%) or more of the equity interests in the case of any other type of legal entity, status as a general partner in any partnership, or any other arrangement whereby a party controls or has the right to control the board of directors or equivalent governing body of a corporation or other entity, or the ability to cause the direction of the management or policies of a corporation or other entity. The Parties acknowledge that in the case of certain entities organized under the laws of certain countries outside of the United States, the maximum percentage ownership permitted by law for a foreign investor may be less than fifty percent (50%), and that in such case such lower percentage shall be substituted in the preceding sentence; provided that such foreign investor has the power to direct the management and policies of such entity. In the case of Novartis, "Affiliates" shall also expressly be deemed to include the Novartis Institute for Functional Genomics, Inc. (also known as the Genomics Institute of the Novartis Research Foundation), the Friedrich Miescher Institute for BioMedical Research and their respective Affiliates.

Article 3. Notwithstanding anything to the contrary in any other agreement (including the Prior Agreement) between Assignor and Assignee, Assignor hereby acknowledges and agrees that no past, present, or future obligations, financial or otherwise, are due or will become due to the Assignor by the Assignee in connection with the practice of the Patent Rights by Assignee or Assignee's successors in title, nominees, assigns, or licensees. For the avoidance of doubt, Assignee will not be deemed by estoppel or implication to have granted Assignor or any of its Affiliates any license or other right with respect to any intellectual property of Assignee.

Article 4. This Assignment (including Exhibit A) sets forth the entire agreement between Assignor and Assignee with respect to the subject matter hereof and all prior agreements (including the Prior Agreement), understanding, promises and representations, whether written or oral, with respect thereto are superseded hereby. No amendment, modification, release or discharge will be binding upon the parties unless in writing and duly executed by authorized representatives of both parties.

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

Dated: August 13, 2009

By: [Signature]
B. Lynne Parshall
COO and CFO
Isis Pharmaceuticals, Inc.

Dated: 22 July 2009

By: [Signature]
Scott Brown, Esq.
Vice President, General Counsel
and Global Head of NIBR Patents

State of Massachusetts
County of Middlesex)
ss.

On 22 July 2009 before me, Kristin E. Konzak, Notary Public, personally appeared **Scott Brown** 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 capacities(ies), and that by his/her/their signatures(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 Massachusetts that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[Signature]
Signature of Notary

[SEAL]

Assignment - Novartis to Isis

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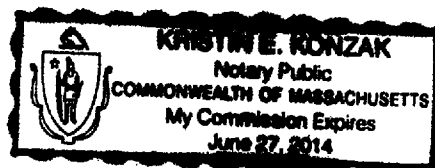


Exhibit A

Abbreviation key

GRT – grant

ABD - abandoned

1. Novartis reference case 19086

TITLE: Backbone Modified Oligonucleotide Analogs

INVENTORS: Alain DE MESMAEKER, Jacques LEBRETON, Adrian WALDNER, Dan Phillip COOK

Applicants: ISIS Pharmaceuticals, Ciba-Geigy AG

Expiry 2012

Country	Filing Date	Filing Number	Grant Number	Grant Date	Status
AT	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
AU	21 May 1992	19986/92	662538	28 Dec 1995	ABD
BE	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
BR	21 May 1992	9206027			ABD
CA	21 May 1992	2103464	1392023	03 Jun 1994	ABD
CH	21 May 1992	92912190.3	586520	19 Apr 2000	GRT
DE	21 May 1992	92912190.3	586520	19 Apr 2000	GRT
DK	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
EP	21 May 1992	92912190.3	586520	19 Apr 2000	GRT
ES	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
FI	21 May 1992	935113	113870	30 Jun 2004	GRT
FR	21 May 1992	92912190.3	586520	19 Apr 2000	GRT
GB	21 May 1992	92912190.3	586520	19 Apr 2000	GRT
GR	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
HU	21 May 1992	P9303289	221806	07 Nov 2002	GRT
IE	01 Jul 1992	921850	83315	27 Jan 2004	GRT
IT	21 May 1992	92912190.3	586520	19 Apr 2000	GRT
JP	21 May 1992	500305/93	2625257	11 Apr 1997	ABD
KR	21 May 1992	US92/04305	156945	27 Jul 1998	ABD
LU	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
MC	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
NL	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
NO	21 May 1992	19934179	308703	16 Oct 2000	GRT
SE	21 May 1992	92912190.3	586520	19 Apr 2000	ABD
US	21 May 1991	08/140206	5602240	11 Feb 1997	GRT
US	13 Dec 1996	08/768780			ABD
US	21 May 1991	07/703619	5378825	03 Jan 1995	GRT
WO	21 May 1992	PCT/US92/04305			ABD

2. Novartis reference case 19923

TITLE: Nucleosides and Oligonucleotides with 2'-Ether Groups

INVENTORS: Pierre MARTIN

Applicants: Ciba-Geigy AG

Expiry 2015

Ctry	Filing Date	Filing Number	Grant Number	Grant Date	Status
AT	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
AU	26 Apr 1995	17653/95	682576	29 Jan 1998	ABD
BE	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
CA	25 Apr 1995	2147798			ABD
CH	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
CH	27 Apr 1994	1307/94			ABD
CN	26 Apr 1995	95104242.4		17 Feb 2001	ABD
CY	27 Dec 2004	CY04/00093	CY2498	02 Sep 2005	GRT
DE	19 Apr 1995	59510742.7	679657	09 Jul 2003	GRT
DK	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
EP	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
ES	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
FR	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
GB	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
IE	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
IL	25 Apr 1995	113482			ABD
IT	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
JP	26 Apr 1995	102074/95			ABD
KR	27 Apr 1995	10012/95			ABD
LU	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
MX	27 Apr 1995	9501970			ABD
NL	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
PT	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
SE	19 Apr 1995	95810259.2	679657	09 Jul 2003	GRT
TW	24 Apr 1995	84104000			ABD
US	20 Feb 1998	09/026713	5977332	02 Nov 1999	GRT
US	20 Apr 1995	08/426807	5750673	12 May 1998	GRT
ZA	26 Apr 1995	95/3383	3383/95	27 Dec 1995	ABD