

02-01-2002

RECC



101968265

To The Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

1-18-02

Douglas L. Cole

02/20/97

First Assignor

Date of Execution

Vasulinga T. Ravikumar

02/06/97

Second Assignor

Date of Execution

Third Assignor

Date of Execution

Fourth Assignor

Date of Execution

Fifth Assignor

Date of Execution

Sixth Assignor

Date of Execution

Additional name(s) of conveying party(ies) attached? () YES (X) NO

2. Name and address of receiving party(ies):

Name: ISIS Pharmaceuticals, Inc.

Street Address: 2292 Faraday Avenue

City: Carlsbad

State: California

ZIP 92008

Additional name(s) & address attached? () YES (X) NO

3. Nature of Conveyance (check only one):

() New Assignment

() Merger

() License Agreement

() Security Agreement

() Change of Name

() Other:

(X) Cross-reference of Assignment filed in United States
Application No. 08/775,011 recorded on 04/28/00 at
Reel No. 010790 and Frame No. 0221

4. Identification of Application number(s), patent number(s) OR date of execution of application to which assignment refers:

Application Nos.:

09/756,354 filed 01/08/01

Patent Nos.:

Date application was signed by the first
named executing inventor(Fill-in this date only if assignment is
filed together with a new application)5. Name and address of party to whom correspondence
concerning documents should be mailed:Name: Michael P. Straher, Esq.
WOODCOCK WASHBURN LLP
One Liberty Place - 46th Floor
Philadelphia, Pennsylvania 19103-7301
215-568-3100

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):\$40.00

() Enclosed

() Authorized to be charged to Deposit Account
Number 23-30508. Please charge any deficiency or credit any
overpayment to Deposit Account Number 23-3050

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Michael P. Straher/38,325

Name of Person Signing/Reg. No.

Signature

Date

Total number of pages including cover sheet, assignment document and additional pages attached thereto: 5

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks
Box Assignments
Washington, D.C. 20231

01/31/2002 LMUELLER 00000128 09756354

PATENT
REEL: 012518 FRAME: 0818

DOCKET NO.: ISIS-2266

(Pending Application;
Serial No. Known)

A S S I G N M E N T

WHEREAS, we, Douglas L. Cole and Vasulinga Ravikumar, hereinafter referred to as the assignors, residing respectively at 4992 Smith Canyon Court, San Diego, California 92130 and 6606 Vireo Court, Carlsbad, California 92009 are the joint inventors of certain inventions or improvements for which we have made application for Letters Patent to the United States, identified as Serial No. 08/775,011, filed December 27, 1996, entitled **METHOD OF SYNTHESIZING PHOSPHOROTHIOATE OLIGONUCLEOTIDES**; and

WHEREAS, ISIS Pharmaceuticals, Inc. hereinafter referred to as the assignee, of 2292 Faraday Avenue, Carlsbad CA, a corporation of Delaware, is desirous of acquiring 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


PATENT
Joint Inventors

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.

 7/29/97 (L.S.)
DOUGLAS L. COLE

 2/6/97 (L.S.)
VASULINGA RAVIKUMAR

[WHERE ALL INVENTORS SIGN BEFORE THE SAME NOTARY:]

_____: SS
COUNTY OF _____:

On this _____ day of _____, 19____, before me personally came the above named Douglas L. Cole and Vasulinga Ravikumar to me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.

Notary Public

[WHERE INVENTORS SIGN BEFORE SEPARATE NOTARIES:]

State of California :
COUNTY OF San Diego : SS

On this 20th day of February, 1997, before me personally came the above named Douglas L. Cole to me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.



Charmaine G. Webb

Notary Public

State of California :

COUNTY OF San Diego : SS

On this 6th day of February, 1997 before me personally came the above named Vasulinga Ravikumar to me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.



Charmaine G. Webb

Notary Public

COUNTY OF _____ : SS

On this _____ day of _____, 19____, before me personally came the above named _____ to me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.

Notary Public