

10/30/98

11-06-1998



100872236

To The Honorable Commissioner of Patents
thereof.

attached original documents or copy

1. Name of conveying party(ies):
Muthiah Manoharan and Phillip Dan Cook

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

3. Nature of Conveyance:
(X) Assignment () Merger
() Security Agreement
() Change of Name
() Other:

Execution Date(s): October 19 and 21, 1998

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

Name: ISIS Pharmaceuticals, Inc.

Street Address: 2292 Faraday Avenue

City: Carlsbad

State CA ZIP 92008

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

4. Application number(s) or patent number(s):
If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

09/130,566

B. Patent No.(s)

Additional numbers attached? () YES (X) NO

5. Name and address of party to whom correspondence
concerning documents should be mailed:

Name: Joseph Lucci, Esq.
Internal Address: WOODCOCK WASHBURN KURTZ
MACKIEWICZ & NORRIS LLP
One Liberty Place - 46th Floor
Philadelphia, Pennsylvania 19103-7301

Street Address: WOODCOCK WASHBURN KURTZ
MACKIEWICZ & NORRIS LLP
One Liberty Place - 46th Floor
1650 Market Street
Philadelphia, Pennsylvania 19103-7301

6. Total number of applications and patents involved: 1

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

(X) Enclosed

() Authorized to be charged to Deposit Account
Number 23-3050

8. 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.

Joseph Lucci/33,307

Name of Person Signing/Reg. No.

Signature

October 27, 1998

Date

Total number of pages including cover sheet, attachments and document: 5

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

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

11/05/1998 JMW/KINS 00000163 09130566

01 FC:561

DOCKET NO.: ISIS-3156

(Pending Application;
Serial No. Known)

A S S I G N M E N T

WHEREAS, we Muthiah Manoharan, and Phillip Dan Cook hereinafter referred to as the assignors, residing respectively at 7634 Reposado Drive, Carlsbad, CA 92009 and 1155 La Casa, Lake San Marcos, CA 92069 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. 09/130,566, filed August 7, 1998, entitled 2'-O-DIMETHYLAMINOETHYLOXYETHYL-MODIFIED 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.

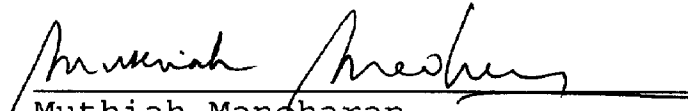
AND we hereby covenant that we have full right to convey the entire interest herein assigned, and that we have not executed and will not execute any agreement in conflict herewith, and we

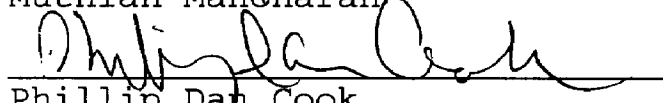
PATENT
Joint Inventors

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.


_____(L.S.)
Muthiah Manoharan


_____(L.S.)
Phillip Dan Cook

_____(L.S.)

_____(L.S.)

[WHERE ALL INVENTORS SIGN BEFORE THE SAME NOTARY:]

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 individuals who executed the foregoing assignment, and who acknowledged to me that execution of the same was of their own free will for the use and purposes therein set forth.

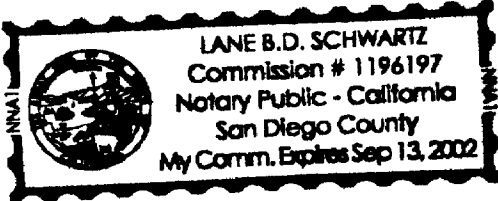
Notary Public

[WHERE INVENTORS SIGN BEFORE SEPARATE NOTARIES:]

State of California:
COUNTY OF San Diego: SS

On this 19th day of October, 1998, before me personally came the above named Nuthiak Mantharan 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.

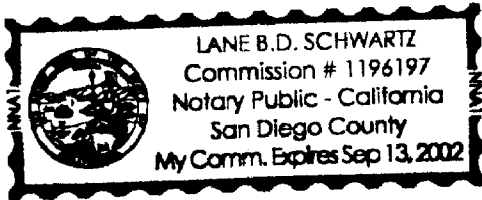
Lane B.D. Schwartz
Notary Public



State of California
COUNTY OF San Diego :

SS

On this 21st day of October, 1998, before me personally came the above named Phillip Dan Cook 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.



Lane B.D. Schwartz
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