

Form PTO-1595 (Rev. 09/04)  
OMB No. 0651-0027 (exp. 5/30/2005)

U.S. DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

## RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

### 1. Name of conveying party(ies)/Execution Date(s):

Balkrishen Bhat / January 5, 2005  
Prasad Dande / January 7, 2005  
Thazha P. Prakash / January 7, 2005

Execution Date(s) \_\_\_\_\_

Additional name(s) of conveying party(ies) attached? ☒ Yes ☐ No

### 3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other \_\_\_\_\_

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

Name: Isis Pharmaceuticals, Inc.

Internal Address: \_\_\_\_\_

Street Address: 2292 Faraday Ave.

City: Carlsbad

State: California

Country: United States Zip: 92008

Additional name(s) & address(es) attached? ☐ Yes ☒ No

### 4. Application or patent number(s):

A. Patent Application No.(s)

10/946,147

☐ This document is being filed together with a new application.  
B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

### 5. Name and address to whom correspondence concerning document should be mailed:

Name: Isis Pharmaceuticals, Inc.

Internal Address: \_\_\_\_\_

Street Address: 2292 Faraday Ave.

City: Carlsbad

State: California Zip: 92008

Phone Number: 760 931-9200

Fax Number: 760 603-3820

Email Address: \_\_\_\_\_

### 6. Total number of applications and patents involved:

1

### 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00

- ☐ Authorized to be charged by credit card  
☒ Authorized to be charged to deposit account  
☐ Enclosed  
☐ None required (government interest not affecting title)

### 8. Payment Information

a. Credit Card Last 4 Numbers \_\_\_\_\_  
Expiration Date \_\_\_\_\_

b. Deposit Account Number 50-0252

Authorized User Name Isis Pharmaceuticals

9. Signature: Robert S. Andrews

Signature

2-1-05

Date

Robert S. Andrews

Reg. No. 44,508

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

9

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450

CH \$40.00 500252 10946147

10/946,147

Recordation Form Cover Sheet  
**PATENTS ONLY**  
(Cont.)

ITEM 1 (cont.): Addt'l name(s) of conveying part(ies)

Name

Execution Date(s)

Charles Allerson

January 7, 2005

Eric E. Swayze

January 11, 2005

Richard H. Griffey

January 7, 2005

PATENT

REEL: 015640 FRAME: 0576

**DOCKET NO.: ISIC0106-100(CHEM0011US)****PATENT****ASSIGNMENT**

WHEREAS, I/we, **Balkrishen Bhat**, of **Carlsbad, California**, **Prasad Dande** of **Carlsbad, California**, **Thazha P. Prakash** of **Carlsbad, California**, **Charles Allerson** of **Carlsbad, California**, **Eric E. Swayze** of **Carlsbad, California**, and **Richard H. Griffey** of **Vista, California** has/have invented a certain invention entitled **"OLIGOMERIC COMPOUNDS COMPRISING 4'-THIONUCLEOSIDES FOR USE IN GENE MODULATION,"** for which I/we have made an application for Letters Patent of the United States, said application having been filed **September 20, 2004** and assigned Application No. **10/946,147**; and

WHEREAS, **ISIS Pharmaceuticals, Inc.**, hereinafter referred to as the assignee, of **2292 Faraday Avenue, Carlsbad California, 92008**, 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.

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**PATENT**  
**REEL: 015640 FRAME: 0577**

**DOCKET NO.: ISIC0106-100(CHEM0011US)****PATENT**

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.

AND this Assignment may be executed in multiple counterparts, each of which shall be deemed to be an original of this Assignment. Additionally, we hereby authorize our attorneys to collect the signature pages of each executed counterpart and to attach those signature pages to a single copy of this instrument, which single copy and attached signature pages together shall constitute an original of this Assignment.

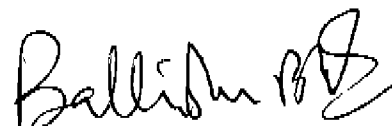
ASSIGNMENT - Page 2 of 8

**PATENT**  
**REEL: 015640 FRAME: 0578**

DOCKET NO.: ISIC0106-100(CHEM0011US)

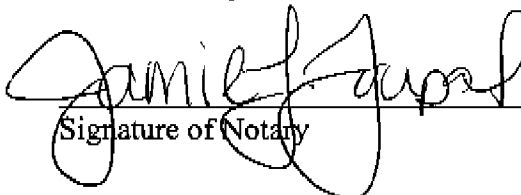
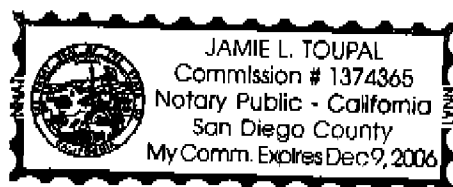
PATENT

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

Dated: 1/5, 2005  
Balkrishen BhatState of California )  
County of San Diego ) ss.

On this 5th day of January, 2005, before me, the undersigned, a Notary Public for the state, personally appeared **Balkrishen Bhat**, personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

WITNESS my hand and official seal.

  
Signature of Notary

ASSIGNMENT - Page 3 of 8

PATENT  
REEL: 015640 FRAME: 0579

DOCKET NO.: ISIC0106-100(CHEM0011US)

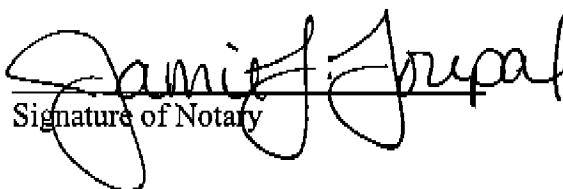
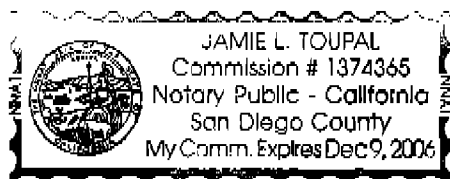
PATENT

Dated: 1-7, 2005  
Prasad Dande

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

On this 7th day of January, 2005 before me, the undersigned, a Notary Public for the state, personally appeared **Prasad Dande**, personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

WITNESS my hand and official seal.

  
Signature of Notary

ASSIGNMENT - Page 4 of 8

PATENT  
REEL: 015640 FRAME: 0580

DOCKET NO.: ISIC0106-100(CHEM0011US)

PATENT

Dated: 1-7-, 2005

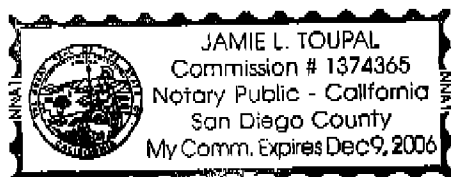
Thazha P. Prakash  
Thazha P. Prakash  
1/25/05

State of California )  
County of San Diego ) ss.

On this 7th day of January, 2005 before me, the undersigned, a Notary Public for the state, personally appeared Thazha P. Prakash, personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

WITNESS my hand and official seal.

Jamie L. Toupal  
Signature of Notary

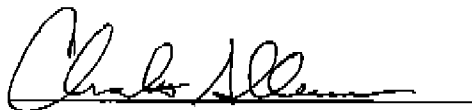


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PATENT  
REEL: 015640 FRAME: 0581

DOCKET NO.: ISIC0106-100(CHEM0011US)

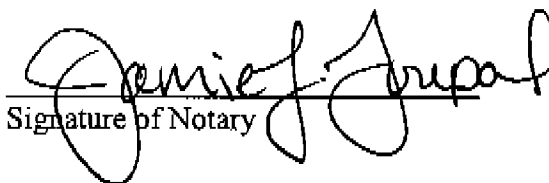
PATENT

Dated: Jan. 7, 2005  
Charles AllersonState of California           )  
  )  
County of San Diego        )

ss.

On this 7th day of January, 2005 before me, the undersigned, a Notary Public for the state, personally appeared **Charles Allerson**, personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

WITNESS my hand and official seal.

  
Signature of Notary

ASSIGNMENT - Page 6 of 8

PATENT  
REEL: 015640 FRAME: 0582



DOCKET NO.: ISIC0106-100(CHEM0011US)

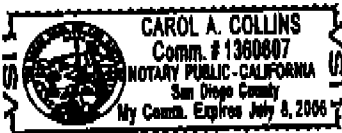
PATENT

Dated: 1/11, 2005 Eric E. Swayze  
Eric E. Swayze

State of California )  
County of San Diego ) ss.

On this 11<sup>th</sup> day of January, 2005, before me, the undersigned, a Notary Public for the state, personally appeared **Eric E. Swayze**, personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

WITNESS my hand and official seal.



Carol A. Collins  
Signature of Notary

ASSIGNMENT - Page 7 of 8

PATENT  
REEL: 015640 FRAME: 0583

DOCKET NO.: ISIC0106-100(CHEM0011US)

## PATENT

Dated: 17/05, 20  

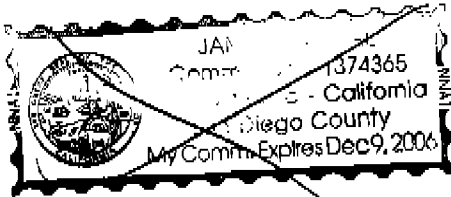
Richard H. Griffey  
Richard H. Griffey

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

On this 7th day of January, 2009, before me, the undersigned, a Notary Public for the state, personally appeared **Richard H. Griffey**, personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

WITNESS my hand and official seal.

Signature of Notary



ASSIGNMENT - Page 8 of 8

**RECORDED: 02/01/2005**

**PATENT**  
**REEL: 015640 FRAME: 0584**