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Attorney's Docket No.: RTS-0078

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FORM PTO-1595 1-31-92

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thereof.1. Name of conveying party(ies):  
Brett P. Monia, William Gaarde and Lex M. Cowser2. Name and address of receiving party(ies):  
Name: Isis Pharmaceuticals, Inc.  
Internal Address:Additional name(s) of conveying party(ies)  
attached? ( ) YES (X) NOStreet Address: 2922 Faraday Ave  
City Carlsbad3. Nature of Conveyance:  
(X) Assignment ( ) Merger  
( ) Security Agreement  
( ) Change of Name  
( ) Other:

State California Zip 92008

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

Execution Date: 7/22/99

4. Application number(s) or patent number (s): N/A

If this document is being filed together with a new application, the execution date of the application is: 7/22/99

A. Patent Application No.(s) Not yet assigned

B. Patent No.(s) N/A

Additional numbers attached? ( ) YES (X) NO

5. Name and address of party to whom  
correspondence concerning documents should be  
mailed:Name: Jane Massey Licata  
Address: Law Offices of Jane Massey Licata  
66 East Main Street  
Marlton NJ 080536. Total number of applications and patents  
involved: 17. Total fee (37 CFR 3.41):.....\$40.00 ..  
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A S S I G N M E N T

WHEREAS, we Brett P. Monia, residing at 7605 Nueva Castilla Way La Costa CA 92009, William Gaarde, residing at 3105 Quebrada Circle Carlsbad CA 92009 and Lex M. Cowser, residing at 3008 Newshire Street Carlsbad CA 92008 hereinafter referred to as the assignors, are the joint inventors of certain inventions or improvements for which we have made application for Letters Patent to the United States, identified as Case No. RTS-0078 entitled **Antisense Modulation of MEKK5 Expression**; filed concurrently herewith; and

WHEREAS, **Isis Pharmaceuticals, Inc.** hereinafter referred to as the assignee, of **2922 Faraday Ave, 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.

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.

We further authorize and direct our attorneys to insert below\* the serial number and filing date of said application now identified as Case No. RTS-0078 as soon as the same shall have been made known to them by the United States Patent Office.

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

Dated: 7/13/99

Brett P. Monia  
Brett P. Monia

STATE OF California )  
COUNTY OF San Diego ) ss.

This 13<sup>th</sup> day of July, 1999 before me personally came the above-named Brett P. Monia, who executed the foregoing Assignment in my presence and who acknowledged to me that he executed the same of his own free will for the purposes set forth therein.



[SEAL]

Lane B.D. Schwartz  
Notary Public for  
My commission expires: 09/13/02

Dated: 7/22/99

William Gaarde  
William Gaarde

STATE OF California )  
COUNTY OF San Diego )

ss.

This 22<sup>nd</sup> day of July, 1999, before me personally came the above-named William Gaarde, who executed the foregoing Assignment in my presence and who acknowledged to me that he executed the same of his own free will for the purposes set forth therein.



Lane B.D. Schwartz  
Notary Public for  
My commission expires: 9/13/02

[SEAL]

Dated: 7/13/99

Lex M. Cowser  
Lex M. Cowser

STATE OF California )  
COUNTY OF San Diego )

ss.

This 13<sup>th</sup> day of July, 1999, before me personally came the above-named Lex M. Cowser, who executed the foregoing Assignment in my presence and who acknowledged to me that he executed the same of his own free will for the purposes set forth therein.



Lane B.D. Schwartz  
Notary Public for  
My commission expires: 09/13/02

[SEAL]