

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Bruce A. Shapiro</td> <td>02/23/2012</td> </tr> <tr> <td>Yaroslava G. Yingling</td> <td>03/13/2012</td> </tr> <tr> <td>Eckart Bindewald</td> <td>02/23/2012</td> </tr> <tr> <td>Wojciech Kasprzak</td> <td>02/23/2012</td> </tr> </tbody> </table>		Name	Execution Date	Bruce A. Shapiro	02/23/2012	Yaroslava G. Yingling	03/13/2012	Eckart Bindewald	02/23/2012	Wojciech Kasprzak	02/23/2012
Name	Execution Date										
Bruce A. Shapiro	02/23/2012										
Yaroslava G. Yingling	03/13/2012										
Eckart Bindewald	02/23/2012										
Wojciech Kasprzak	02/23/2012										
RECEIVING PARTY DATA											
Name:	The United States of America, as represented by the Secretary, Department of Health and Human Services										
Street Address:	National Institutes of Health; Office of Technology Transfer										
Internal Address:	6011 Executive Blvd., Suite 325; MSC 7660										
City:	Bethesda										
State/Country:	MARYLAND										
Postal Code:	20891-7660										
PROPERTY NUMBERS Total: 1											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13378935</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13378935						
Property Type	Number										
Application Number:	13378935										
CORRESPONDENCE DATA											
Fax Number:	(617)227-4420										
Phone:	617-239-0100										
Email:	lmarcus@edwardswildman.com										
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>											
Correspondent Name:	Edwards Wildman Palmer LLP										
Address Line 1:	P.O. Box 55874										
Address Line 4:	Boston, MASSACHUSETTS 02205										
ATTORNEY DOCKET NUMBER:	84230(47992)										
NAME OF SUBMITTER:	Christine C. O'Day										

PATENT

Total Attachments: 8

source=84230_NIHAssignment#page1.tif

source=84230_NIHAssignment#page2.tif

source=84230_NIHAssignment#page3.tif

source=84230_NIHAssignment#page4.tif

source=84230_NIHAssignment#page5.tif

source=84230_NIHAssignment#page6.tif

source=84230_NIHAssignment#page7.tif

source=84230_NIHAssignment#page8.tif

PATENT

REEL: 027925 FRAME: 0469

**ASSIGNMENT FOR NIH/FDA INVENTIONS
(NIH OR FDA CO-INVENTORS ONLY)**

WHEREAS, we, Bruce A. Shapiro; Yaroslava G. Yingling; Eckart Bindewald; Wojciech Kasprzak, residing at 8220 Langport Terrace, Gaithersburg, Maryland 20877; 111 W. Laurenbrook Ct., Cary, North Carolina 27518; 18 Victoria Sq., Frederick, Maryland 21702; 8008 Sunnybrook Ct., Frederick, Maryland 21702, respectively, employees of the National Institutes of Health, a component of the United States Department of Health and Human Services having an address at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, MSC 7660, Bethesda, MD 20892-7660, [hereinafter **The Inventors**], have made certain inventions as described and claimed in the U.S. Patent Application having United States Serial Number 13/378,935, filed December 16, 2011, and which is entitled "RNA NANOPARTICLES AND NANOTUBES" ("U.S. Application") and;

WHEREAS, we are applicants named in the above-identified U.S. Application; and

WHEREAS, the inventions described and claimed therein were made under conditions such as to entitle **THE UNITED STATES OF AMERICA, as represented by the Secretary, Department of Health and Human Services** [hereinafter **THE GOVERNMENT**] under Executive Order 10096 and its amendments, 35 USC §§200-201, §§206-207, and §210 and 37 CFR Part 501 to the entire right, title, and interest in such inventions; and

WHEREAS, THE GOVERNMENT is desirous of acquiring all domestic and foreign right, title, and interest in the inventions described and claimed in the U.S. Application; and

NOW, THEREFORE, having the legal obligation to assign our right, title and interest in the inventions described and claimed in the above-identified patent application to **THE GOVERNMENT**, having a place of business at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, MSC 7660, Bethesda, MD 20892-7660 and for consideration, the receipt and sufficiency of which are hereby acknowledged, we hereby assign and transfer to **THE GOVERNMENT**:

the entire right, title, and interest in and to any and all inventions described and claimed in said U.S. Application and any and all Letters Patent which may be granted thereon, and any and all continuations, divisions, reissues or extensions thereof; and

all rights to claim priority on the basis of said U.S. Application including but not limited to applications filed through the provisions of the Patent Cooperation Treaty ("PCT Applications"); and

all applications for Letters Patent that may be filed for any and all inventions described and claimed in said U.S. Application that may be filed in any foreign country and all Letters Patents that may be granted thereon in any foreign country and all extensions, renewals, and reissues thereof; and

any and all such Letters Patents as may be granted in the United States or any foreign country to be held by **THE GOVERNMENT** to the end of the term for which the same would have been held by the inventors had this assignment not been made.

We further agree to make, execute, and deliver to **THE GOVERNMENT**, upon request, any and all papers, documents, affidavits, or other instruments that may be necessary in the

prosecution of any application or applications for improvements or reissues of Letters Patent, and to assist **THE GOVERNMENT** in every way as may be requested in protecting said invention.

IN WITNESS WHEREOF we subscribe our hands and seals on the dates shown below:

Inventor 1:

<u>2-23-2012</u> Date	<u>Bruce A. Shapiro</u> Bruce A. Shapiro
County of <u>Frederick</u>	
State of <u>Maryland</u>	
Subscribed and sworn to before me this <u>23rd</u> day of <u>February</u> , <u>2012</u>	
[Seal]	<u>[Signature]</u> Notary Public for <u>Frederick, MD</u> My Commission Expires: <u>6/12/2015</u>

Inventor 2:

_____ Date	_____ Yaroslava G. Yingling
County of _____	
State of _____	
Subscribed and sworn to before me this _____ day of _____, _____.	
[Seal]	Notary Public for _____ My Commission Expires: _____

Inventor 3:

02/23/2012
Date

Frederick
Eckart Bindewald

County of Frederick
State of Maryland

Subscribed and sworn to before me this 23rd day of February, 2012.

[Seal]

Notary Public for Frederick, MD

My Commission Expires: 6/12/2015

Inventor 4:

2/23/2012
Date

Wojciech Kasprzak
Wojciech Kasprzak

County of Frederick
State of Maryland

Subscribed and sworn to before me this 23rd day of February, 2012.

[Seal]

Notary Public for Frederick, MD

My Commission Expires: 6/12/2015

**ASSIGNMENT FOR NIH/FDA INVENTIONS
(NIH OR FDA CO-INVENTORS ONLY)**

WHEREAS, we, Bruce A. Shapiro; Yaroslava G. Yingling; Eckart Bindewald; Wojciech Kasprzak, residing at 8220 Langport Terrace, Gaithersburg, Maryland 20877; 111 W. Laurenbrook Ct., Cary, North Carolina 27518; 18 Victoria Sq., Frederick, Maryland 21702; 8008 Sunnybrook Ct., Frederick, Maryland 21702, respectively, employees of the National Institutes of Health, a component of the United States Department of Health and Human Services having an address at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, MSC 7660, Bethesda, MD 20892-7660, [hereinafter **The Inventors**], have made certain inventions as described and claimed in the U.S. Patent Application having United States Serial Number 13/378,935, filed December 16, 2011, and which is entitled "RNA NANOPARTICLES AND NANOTUBES" ("U.S. Application") and;

WHEREAS, we are applicants named in the above-identified U.S. Application; and

WHEREAS, the inventions described and claimed therein were made under conditions such as to entitle **THE UNITED STATES OF AMERICA, as represented by the Secretary, Department of Health and Human Services** [hereinafter **THE GOVERNMENT**] under Executive Order 10096 and its amendments, 35 USC §§200-201, §§206-207, and §210 and 37 CFR Part 501 to the entire right, title, and interest in such inventions; and

WHEREAS, THE GOVERNMENT is desirous of acquiring all domestic and foreign right, title, and interest in the inventions described and claimed in the U.S. Application; and

NOW, THEREFORE, having the legal obligation to assign our right, title and interest in the inventions described and claimed in the above-identified patent application to **THE GOVERNMENT**, having a place of business at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, MSC 7660, Bethesda, MD 20892-7660 and for consideration, the receipt and sufficiency of which are hereby acknowledged, we hereby assign and transfer to **THE GOVERNMENT**:

the entire right, title, and interest in and to any and all inventions described and claimed in said U.S. Application and any and all Letters Patent which may be granted thereon, and any and all continuations, divisions, reissues or extensions thereof; and

all rights to claim priority on the basis of said U.S. Application including but not limited to applications filed through the provisions of the Patent Cooperation Treaty ("PCT Applications"); and

all applications for Letters Patent that may be filed for any and all inventions described and claimed in said U.S. Application that may be filed in any foreign country and all Letters Patents that may be granted thereon in any foreign country and all extensions, renewals, and reissues thereof; and

any and all such Letters Patents as may be granted in the United States or any foreign country to be held by **THE GOVERNMENT** to the end of the term for which the same would have been held by the inventors had this assignment not been made.

We further agree to make, execute, and deliver to **THE GOVERNMENT**, upon request, any and all papers, documents, affidavits, or other instruments that may be necessary in the

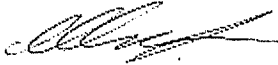
prosecution of any application or applications for improvements or reissues of Letters Patent, and to assist **THE GOVERNMENT** in every way as may be requested in protecting said invention.

IN WITNESS WHEREOF we subscribe our hands and seals on the dates shown below:

Inventor 1:

_____	_____
Date	Bruce A. Shapiro
County of _____	
State of _____	
Subscribed and sworn to before me this _____ day of _____, _____.	
[Seal]	
Notary Public for _____	
My Commission Expires: _____	

Inventor 2:

3/13/2012	
Date	Yaroslava G. Yingling
County of _____	
State of _____	
Subscribed and sworn to before me this _____ day of _____, _____.	
[Seal]	
Notary Public for _____	
My Commission Expires: _____	

Inventor 3:

_____	_____
Date	Eckart Bindewald
County of _____	
State of _____	
Subscribed and sworn to before me this _____ day of _____, _____.	
[Seal]	
Notary Public for _____	
My Commission Expires: _____	

Inventor 4:

_____	_____
Date	Wojcieck Kasprzak
County of _____	
State of _____	
Subscribed and sworn to before me this _____ day of _____, _____.	
[Seal]	
Notary Public for _____	
My Commission Expires: _____	