

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5393683

<b>SUBMISSION TYPE:</b>	CORRECTIVE ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	Corrective Assignment to correct the ASSIGNEE AND ATTACHMENTS previously recorded on Reel 032345 Frame 0651. Assignor(s) hereby confirms the ASSIGNEE IS F. HOFFMAN-LA ROCHE AG.
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DANIEL J. CHIN	08/22/2011
JOCHEN DECKERT	08/12/2011
MARKUS HOSSBACH	08/12/2011
MATTHIAS JOHN	08/12/2011
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	F. HOFFMAN-LA ROCHE AG
<b>Street Address:</b>	GRENZACHERSTRASSE 124
<b>City:</b>	BASEL
<b>State/Country:</b>	SWITZERLAND
<b>Postal Code:</b>	CH-4070
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	13535454
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(877)769-7945
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	(617) 542-5070
<b>Email:</b>	apsi@fr.com
<b>Correspondent Name:</b>	J. P. FASSE
<b>Address Line 1:</b>	FISH & RICHARDSON P.C.
<b>Address Line 2:</b>	P.O.BOX 1022
<b>Address Line 4:</b>	MINNEAPOLIS, MINNESOTA 55440-1022
<b>ATTORNEY DOCKET NUMBER:</b>	41790-0008US1
<b>NAME OF SUBMITTER:</b>	LAKEISHA BRYANT
<b>SIGNATURE:</b>	/Lakeisha Bryant/
<b>DATE SIGNED:</b>	02/26/2019
<b>Total Attachments: 12</b>	

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## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT2751830

SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
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DANIEL CHIN	08/22/2011										
JOCHEN DECKERT	08/12/2011										
MARKUS HOSSBACH	08/12/2011										
MATTHIAS JOHN	08/12/2011										
RECEIVING PARTY DATA											
Name:	ARROWHEAD RESEARCH CORPORATION										
Street Address:	225 SOUTH LAKE AVENUE										
Internal Address:	SUITE 1050										
City:	PASADENA										
State/Country:	CALIFORNIA										
Postal Code:	91101										
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>13535454</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13535454						
Property Type	Number										
Application Number:	13535454										
CORRESPONDENCE DATA											
Fax Number:	(608)441-0741										
Phone:	608-316-3890										
Email:	kirk.ekena@arrowres.com										
<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>											
Correspondent Name:	ARROWHEAD MADISON INC.										
Address Line 1:	465 SCIENCE DRIVE										
Address Line 2:	SUITE C										
Address Line 4:	MADISON, WISCONSIN 53711										
ATTORNEY DOCKET NUMBER:	23794 US1										
NAME OF SUBMITTER:	KIRK EKENA										

Signature:	/Kirk Ekena/
Date:	03/04/2014
<b>Total Attachments: 15</b> source=27394_Assign-complete#page1.tif source=27394_Assign-complete#page2.tif source=27394_Assign-complete#page3.tif source=27394_Assign-complete#page4.tif source=27394_Assign-complete#page5.tif source=27394_Assign-complete#page6.tif source=27394_Assign-complete#page7.tif source=27394_Assign-complete#page8.tif source=27394_Assign-complete#page9.tif source=27394_Assign-complete#page10.tif source=27394_Assign-complete#page11.tif source=27394_Assign-complete#page12.tif source=27394_Assign-complete#page13.tif source=27394_Assign-complete#page14.tif source=27394_Assign-complete#page15.tif	

# Assignment

I/WE, the undersigned

Daniel Chin, principal research scientist, an US citizen  
9 Holly Ct  
Bloomfield, New Jersey 07003, USA

Jochen Deckert, scientist biochemistry, a German citizen  
Oberhacken 12  
D-95326 Kulmbach, Germany

Markus Hossbach, scientist bioinformatics, a German citizen  
Ernteweg 40  
D-95326 Kulmbach, Germany

Matthias John, biologist, a German citizen  
Kapellenstrasse 12  
D-96103 Hallstadt, Germany

ASSIGNOR(S), herewith declare that I am/we are the sole/joint inventor(s) of the invention entitled:

## **Compositions and methods for inhibiting gene expression of Hepatitis B Virus**

for which the first application(s) was (were) filed as follows:

<u>Country</u>	<u>Filing date</u>	<u>Serial No.</u>
27394 EP	30.06.2011	11172235.1

and that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/WE have sold, assigned and transferred all rights and title to and from the said invention and from the said application(s) in all countries of the world to the ASSIGNEE:

**F. Hoffmann-La Roche AG**  
Grenzacherstrasse 124,  
CH-4070 Basel (Switzerland)

The present assignment is for, but is not limited to the following countries:

Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Colombia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Kazakhstan, Korea, Luxembourg, Mexico, Monaco, Netherlands, New Zealand, Norway, Pakistan, People's Republic of China, Philippines, Poland, Portugal, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Taiwan, Turkey, United Kingdom of Great Britain and Northern Ireland, Ukraine, Uruguay, U.S.A., Venezuela.

By virtue of this assignment the said ASSIGNEE is fully entitled to apply for and obtain in their own name or in any other name and for their own purposes and account LETTERS PATENT in the whole world, especially in the above-named countries, and to claim therefor the right of priority of the first filed application(s) in the above-named country (countries) in accordance with international conventions.

Notarization required  
(signatures see reverse side)

**PATENT**  
**REEL: 032445 FRAME: 0659**

Signed at  
on

..... Jochen Deckert

\_\_\_\_\_ Markus Hossbach

..... Matthias John

Signed at Nutley, New Jersey, USA  
on August 22, 2011

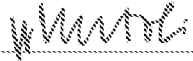
  
..... Daniel Chin

(further signatures see reverse side)

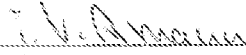
**PATENT**  
**REEL: 032345 FRAME: 0650**

We accept this assignment  
Basle, Switzerland, this  
29 day of August 2011

**F. Hoffmann-La Roche AG**



Antonio Natoli  
Holder of procuration



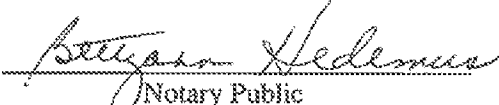
Susanne Amann  
Mandatory

UNITED STATES OF AMERICA )  
STATE OF NEW JERSEY) ss.--  
COUNTY OF ESSEX)

On this 22<sup>nd</sup> day of August, 2011 before me personally appeared

Daniel Chin

to me known to be the person described in the foregoing instrument, who  
acknowledged that he executed the foregoing instrument on his own free will for the  
purposes therein set forth.

  
Notary Public

BETTYANN HEDEMUS  
Notary Public of New Jersey  
Commission Expires 8/25/2012



# Assignment

I/WE, the undersigned

Daniel Chin, principal research scientist, an US citizen  
9 Holly Ct  
Bloomfield, New Jersey 07003, USA

Jochen Deckert, scientist biochemistry, a German citizen  
Oberhacken 12  
D-95326 Kulmbach, Germany

Markus Hossbach, scientist bioinformatics, a German citizen  
Ernteweg 40  
D-95326 Kulmbach, Germany

Matthias John, biologist, a German citizen  
Kapellenstrasse 12  
D-96103 Hallstadt, Germany

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CH-4070 Basel (Switzerland)

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Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Colombia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Kazakhstan, Korea, Luxembourg, Mexico, Monaco, Netherlands, New Zealand, Norway, Pakistan, People's Republic of China, Philippines, Poland, Portugal, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Taiwan, Turkey, United Kingdom of Great Britain and Northern Ireland, Ukraine, Uruguay, U.S.A., Venezuela.

By virtue of this assignment the said ASSIGNEE is fully entitled to apply for and obtain in their own name or in any other name and for their own purposes and account LETTERS PATENT in the whole world, especially in the above-named countries, and to claim therefor the right of priority of the first filed application(s) in the above-named country (countries) in accordance with international conventions.

Notarization required  
(signatures see reverse side)

**PATENT**  
**REEL: 032445 FRAME: 0653**

Signed at  
on

Jochen Deckert

Jochen Deckert

Markus Hossbach

Markus Hossbach

Matthias John

Matthias John

Signed at  
on

\_\_\_\_\_

Daniel Chin

(further signatures see reverse side)

**PATENT**  
**REEL: 032345 FRAME: 0658**

We accept this assignment

Basle, Switzerland, this

12 day of August 2011

**F. Hoffmann-La Roche AG**

*Antonio Natoli*

Antonio Natoli

Holder of procuration

*Susanne Amann*

Susanne Amann

Mandatory

**PATENT**

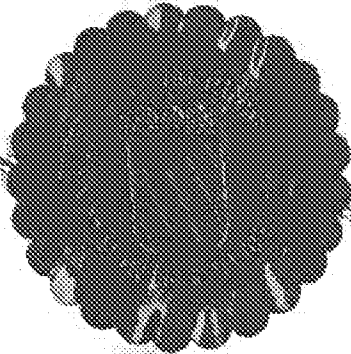
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Urk. Rolle Nr. H 1287 /2011

Beglaubigt wird hiermit die Echtheit der vor mir vollzogenen Unterschriften  
von

1. Herrn Dr. Jochen Deckert, geb. am 18.10.1975,  
wohnend in 95326 Kulmbach, Oberhacken 12,  
ausgewiesen durch Personalausweis,
2. Herrn Dr. Markus Hoßbach, geb. am 20.08.1973,  
wohnend in 95326 Kulmbach, Ernteweg 40,  
persönlich bekannt,
3. Herrn Dr. Matthias John, geb. am 24.12.1964,  
wohnend in 96103 Hallstadt, Kapellenstraße 12,  
ausgewiesen durch Personalausweis.

Kulmbach, den neunten August zweitausendelf.



  
Dr. Anja Heringer, Notarin