

PATENT ASSIGNMENT

Electronic Version v1.1
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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>Matthew Bellgard</td> <td>04/01/2008</td> </tr> <tr> <td>David John Hampson</td> <td>04/01/2008</td> </tr> <tr> <td>Tom La</td> <td>04/01/2008</td> </tr> <tr> <td>Nyree Phillips</td> <td>04/01/2008</td> </tr> </tbody> </table>		Name	Execution Date	Matthew Bellgard	04/01/2008	David John Hampson	04/01/2008	Tom La	04/01/2008	Nyree Phillips	04/01/2008
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Matthew Bellgard	04/01/2008										
David John Hampson	04/01/2008										
Tom La	04/01/2008										
Nyree Phillips	04/01/2008										
RECEIVING PARTY DATA											
Name:	Murdoch University										
Street Address:	South Street										
City:	Murdoch, Western Australia										
State/Country:	AUSTRALIA										
Postal Code:	6150										
Name:	Novartis AG										
Street Address:	Lichtstrasse 35										
City:	Basel										
State/Country:	SWITZERLAND										
Postal Code:	4056										
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>12934963</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	12934963						
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Application Number:	12934963										
CORRESPONDENCE DATA											
Fax Number:	(206)224-0779										
Phone:	(206)682-8100										
Email:	efiling@cojk.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:	Tineka J. Quinton, Esq.										

OP \$40.00 12934963

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Address Line 4: Seattle, WASHINGTON 98101-2347

ATTORNEY DOCKET NUMBER: SEHA135639

NAME OF SUBMITTER: Tineka J. Quinton

Total Attachments: 7
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No. 52610

ASSIGNMENT

For good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, we

(1) Matthew BELLGARD, (2) David John HAMPSON, (3) Tom LA and (4) Nyree PHILLIPS

respectively residing at

(1) 20 Campion Crescent, Attadale, 6156, Western Australia,

(2) ~~28 Haslemere Drive, Mt. Nasura, 6112, Western Australia,~~

*146 Cartodine Road, Bedfordale, 6112,
Western Australia*

(3) 248 William Street, Beckenham, 6107, Western Australia and

(4) 70 Alpine Road, Kalamunda, Western Australia 6076

do hereby sell, assign and transfer to Murdoch University, a company organized under the laws of Australia, of South Street, Murdoch, Western Australia 6150, and its successors, all our right, title and interest for all countries of the world (Murdoch University and Novartis AG hereinafter referred to as the "ASSIGNEE") in and to (1) all of our inventions and discoveries described in the patent application(s) entitled

Novel Sequences of Brachyspira, Immunogenic Compositions, Methods for Preparation and Use Thereof

filed* in the RO/ _____ on _____, 20____, and accorded International Patent Application Number PCT _____, (2) said patent application(s), (3) (3) all national stages of said international patent application, (4) all other patent applications in all countries and regions claiming the priority of the European, patent application filed on March 27, 2008, and accorded Application Number 08153406.7, (5) all continuations and divisions of all of said patent applications (including further continuations and divisions such as, but not limited to, continuations of continuations and continuations of divisions), ((2)-(5) hereinafter referred to collectively as "patent applications"), (6) all patents that are granted on any of said patent applications, (7) all registrations and confirmations of, and importation certificates based on, one or more of said patents and (8) all reissues, renewals and extensions of said patents, reexamination certificates issued for said patents and supplementary protection certificates based on said patents (including the right to file patent applications on said inventions and discoveries in the names of ASSIGNEE, their designees or in any or all of our names, at their election and in accordance with applicable law in all countries and regions and all rights of priority in all countries and regions for all of said patent applications under the International Convention for the Protection of Industrial Property, and all other applicable similar international agreements), the same to be held and enjoyed by said ASSIGNEE, their successors, assigns and legal representatives, to the full ends of the terms for which all patents therefor may be granted, as fully and entirely as the same would have been held and enjoyed by us if this sale, assignment and transfer had not been made.

*We hereby authorize **ASSIGNEE** and their representatives to insert in this instrument the Application Number and the filing date of said patent application when notified thereof.

And we hereby covenant and agree that we will, at any time, upon the request and at the expense of **ASSIGNEE**, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, patent applications, patents, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates and supplementary protection certificates in **ASSIGNEE**, their successors, assigns or other legal representatives, including the execution and procurement of all further documents evidencing this sale, assignment and transfer as may be necessary or desirable for recording the same in the patent office or other intellectual property office, agency or the like of any country or region, that we will, at any time, upon the request and at the expense of **ASSIGNEE**, execute all additional patent applications, applications for registration and/or confirmation of one or more of said patents, applications for certificates of importation based on one or more of said patents, applications for reissues, renewals and extensions of one or more of said patents and supplemental protection certificates based upon one or more of said patents, and that we will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein, without further compensation, but at the expense of **ASSIGNEE**, the successors, assigns or other legal representatives.

Executed this 01 day of April, 2008.

[Signature] L.S.
Name: Matthew BELLGARD

Executed this 01 day of APRIL, 2008.

[Signature] L.S.
Name: David John HAMPSON

Executed this 01 day of APRIL, 2008.

[Signature] L.S.
Name: Tom LA

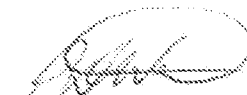
Executed this 01 day of APRIL, 2008.

[Signature] L.S.
Name: Nyree PHILLIPS

ACCEPTANCE OF ASSIGNMENT

With reference to the Assignment to Murdoch University of an invention entitled "Novel Sequences of Brachyspira, Immunogenic Compositions, Methods for Preparation and Use Thereof" signed by Matthew BELLGARD, David John HAMPSON, Tom LA and Nyree PHILLIPS; this will certify that Murdoch University accepts such Assignment.

Murdoch University

By : 
Name : PATRIZIA WASHEL
Function : DIRECTOR OF COMMERCIALISATION
Date: 2nd APRIL 2008

ASSIGNMENT

For good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, we

(1) **Murdoch University,**


respectively residing at

(1) **South Street, Murdoch, Western Australia 6150, Australia,**

do hereby sell partly and assign partly to **Novartis AG**, a company organized under the laws of the Swiss Confederation, of Lichtstrasse 35, 4056 Basel, Switzerland, and its successors, assigns and legal representatives a part of my/our right, title and interest for all countries of the world as the "ASSIGNEE") in and to (1) all of our inventions and discoveries described in the patent application(s) entitled

Novel Sequences of Brachyspira, Immunogenic Compositions, Methods for Preparation and Use Thereof

filed* in the RO/ _____ on _____, 20____, and accorded International Patent Application Number PCT _____, (2) said patent application(s), (3) (3) all national stages of said international patent application, (4) all other patent applications in all countries and regions claiming the priority of the European, patent application filed on March 27, 2006 and accorded Application Number 08153406.7, (5) all continuations and divisions of all of said patent applications (including further continuations and divisions such as, but not limited to, continuations of continuations and continuations of divisions), ((2)-(5) hereinafter referred to collectively as "patent applications"), (6) all patents that are granted on any of said patent applications, (7) all registrations and confirmations of, and importation certificates based on, one or more of said patents and (8) all reissues, renewals and extensions of said patents, reexamination certificates issued for said patents and supplementary protection certificates based on said patents (including the right to file patent applications on said inventions and discoveries in the names of **ASSIGNEE**, their designees or in any or all of our names, at their election and in accordance with applicable law in all countries and regions and all rights of priority in all countries and regions for all of said patent applications under the International Convention for the Protection of Industrial Property, and all other applicable similar international agreements), the same to be held and enjoyed by said **ASSIGNEE**, their successors, assigns and legal representatives, to the full ends of the terms for which all patents therefor may be granted, as fully and entirely as the same would have been held and enjoyed by us if this sale, assignment and transfer had not been made.



"We hereby authorize **ASSIGNEE** and their representatives to insert in this instrument the Application Number and the filing date of said patent application when notified thereof.

And we hereby covenant and agree that we will, at any time, upon the request and at the expense of **ASSIGNEE**, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, patent applications, patents, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates and supplementary protection certificates in **ASSIGNEE**, their successors, assigns or other legal representatives, including the execution and procurement of all further documents evidencing this sale, assignment and transfer as may be necessary or desirable for recording the same in the patent office or other intellectual property office, agency or the like of any country or region, that we will, at any time, upon the request and at the expense of **ASSIGNEE**, execute all additional patent applications, applications for registration and/or confirmation of one or more of said patents, applications for certificates of importation based on one or more of said patents, applications for reissues, renewals and extensions of one or more of said patents and supplemental protection certificates based upon one or more of said patents, and that we will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein, without further compensation, but at the expense of **ASSIGNEE**, the successors, assigns or other legal representatives.

Executed this 2ND day of APRIL, 2008.

[Signature] PATRIZIA WASHEK, DIRECTOR OF COMMERCIALISATION
L.S.

FOR AND
IN BEHALF OF
Name: Murdoch University

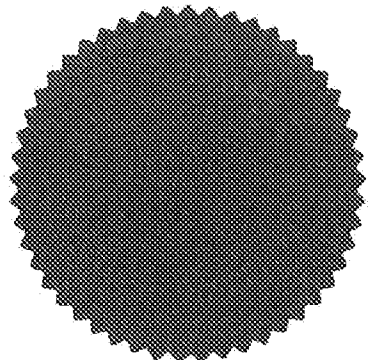
ACKNOWLEDGEMENT

State of Western Australia

County of Perth) s.s.:
)

On this 2 day of April, 2008, personally appeared before me Patrizia Washak to me known, and known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal)




[Signature] David Lewis
Notary Public
Perth
Western Australia

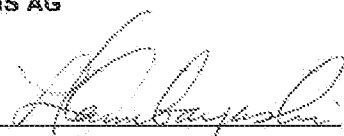
ACCEPTANCE OF ASSIGNMENT

With reference to the Assignment to **NOVARTIS AG** of an invention entitled "Novel Sequences of Brachyspira, Immunogenic Compositions, Methods for Preparation and Use Thereof" signed by **Murdoch University**; this will certify that **NOVARTIS AG** accepts such Assignment.

NOVARTIS AG

By: 

Name : Steve Braithwaite
Function : Head of Patent Administration



Lynne Kamibayashi
Patent Attorney

Date: 5/4/2008

Attestation

I, **Dr. Matthias Staehelin**, the undersigned notary public of Basel, Switzerland, certify herewith the authenticity of the signature of **Mr. Matthew Bellgard**, Australian citizen, residing in Attadale, Australia; of **Mr. David John Hampson**, Australian citizen, residing in Mt. Nasura, Western Australia, Australia; of **Mr. Tom La**, Australian citizen, residing in Beckenham, Western Australia, Australia; and of **Ms. Nyree Philips**, Australian citizen, residing in Kalamunda, Western Australia, Australia.

I further certify that the above signatures are the genuine signatures of **Ms. Lynne Kamibayashi**, citizen of Riehen, Switzerland, residing in Bottmingen, Switzerland, and **Mr. Steve Braithwaite**, British citizen, residing in Basel, Switzerland, both acting for **Novartis AG**, in Basel, Switzerland, both as proxy holders, both with joint signature.

The authenticity of the signatures was established by comparison.

BASEL, Switzerland, this 26th (twenty-sixth) day of May 2008 (twothousandandeight).

M. Staehelin, Notar

Leg.Prot.Nr. 1142 /2008