502815382 05/20/2014

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE: NEW ASSIGNMENT NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------------------------|----------------|
| RALPH LEON BIEMANS | 05/21/2012 |
| PIERRE DUVIVIER | 05/17/2012 |
| OLLIVIER FRANCIS NICOLAS GAVARD | 05/17/2012 |

RECEIVING PARTY DATA

| Name: | GLAXOSMITHKLINE BIOLOGICALS S.A. | | |
|-----------------|----------------------------------|--|--|
| Street Address: | RUE DE L' INSTITUT 89 | | |
| City: | RIXENSART | | |
| State/Country: | BELGIUM | | |
| Postal Code: | B-1330 | | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14202419 |

CORRESPONDENCE DATA

Fax Number: (919)483-7977

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.

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Address Line 4: RESEARCH TRIANGLE PK, NORTH CAROLINA 27709-3398

| NAME OF SUBMITTER: | JOHNIE JONES |
|--------------------|----------------|
| SIGNATURE: | /Johnie Jones/ |
| DATE SIGNED: | 05/20/2014 |

Total Attachments: 3

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> **PATENT REEL: 032927 FRAME: 0689** 502815382

Assignment

WHEREAS I/WE, Ralph Leon BIEMANS a citizen of Belgium of Rixensart, Belgium, Pierre DUVIVIER a citizen of Belgium of Rixensart, Belgium, Ollivier Francis Nicolas GAVARD a citizen of France of Rixensart, Belgium (hereinafter called "the inventor(s)") have invented or discovered certain improvements in "CONJUGATION PROCESS OF BACTERIAL POLYSACCHARIDES TO CARRIER PROTEINS" (hereinafter referred to as "the invention and improvements") for which priority application 1003922.0 was filed on 9 Mar 2010 in the United Kingdom, and for which a PCT international application PCT/EP2011/053400 was filed on 7 Mar 2011, designating the United States of America and naming assignor as inventor, and in the United States only applicant/inventor.

WHEREAS GLAXOSMITHKLINE BIOLOGICALS S.A., a company incorporated in Belgium, whose registered office is at rue de l'Institut 89, B-1330 Rixensart, Belgium, is desirous of acquiring the whole right, title and interest in and to the invention, and in and to any applications for the invention and any Letters Patent to be obtained therefor, in all countries, including the United States of America, its territories and possessions;

NOW, THEREFORE, to all whom it may concern, be it known that I/we, the inventors, hereby confirm the ownership by **GLAXOSMITHKLINE BIOLOGICALS S.A.** of the invention and the application by operation of law and, if under the law of the United States of America I/we the inventor(s) have any ownership right, title and interest in and to the invention and the application (which I/we do not believe to be the case and claim no ownership right, title or interest in and to the invention and to the application based on the law of Belgium), I/we the inventor(s) nevertheless hereby assign and transfer such ownership right, title and interest in and to the invention and to the application, including the right to claim priority from the application in respect of any subsequent applications, to **GLAXOSMITHKLINE BIOLOGICALS S.A.** in all countries, including the United States of America, its territories and possessions;

AND I/we, the inventors, hereby assign and transfer to **GLAXOSMITHKLINE BIOLOGICALS S.A.**, my/our whole right title and interest in and to the invention and the

PATENT REEL: 032927 FRAME: 0690 application, and in and to any divisional application, continuation or continuation-in-part application thereof, and in and to any Supplementary Protection Certificate, extension or re-issue thereof, and I/we the inventor(s) hereby authorise and request any patent arising therefrom, in all countries, including the United States, its territories and possessions, be issued to GLAXOSMITHKLINE BIOLOGICALS S.A..

AND, I/we the inventor(s) for myself/ourselves and my/our respective executors and legal representatives hereby, agree at the request and cost of GLAXOSMITHKLINE BIOLOGICALS S.A., to provide information and make, execute and deliver any and all other instruments in writing, and any and all further acts, applications, papers, affidavits, assignments and other documents which may be possible and are necessary or desirable to more effectually secure to and vest in said GLAXOSMITHKLINE BIOLOGICALS S.A., its successors and assigns, the whole right, title and interest in and to the invention hereby assigned and transferred in all countries, including the United States of America, its territories and possessions.

IN WITNESS WHEREOF, and with effect from 9 Mar 2010, I/we the inventors and the Attorney & Authorised Official of **GLAXOSMITHKLINE BIOLOGICALS S.A.** have hereunto set my/our respective hand(s).

Inventor Name

Signature

Date

Ralph Leon BIEMANS:

Pierre DUVIVIER:

Ollivier Francis Nicolas GAVARD:

17 May 2012

PATENT REEL: 032927 FRAME: 0691

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| SIGNED by | RICHARD | LEWIS | PASEMAN | |
|-----------|-------------|-------|---------------|--|
| SIGNED DA | ***-******* | ~0.0 | 0.10C(1); 1.0 | |

As the Attorney & Authorised Official of GLAXOSMITHKLINE BIOLOGICALS S.A.:

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Date: _____

1 JUN 2012

Signature

PATENT REEL: 032927 FRAME: 0692

RECORDED: 05/20/2014