

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4868950

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|---|----------------------------------|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                   |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                       |
| <b>CONVEYING PARTY DATA</b>   |                                  |
| <b>Name</b>   | <b>Execution Date</b>            |
| JEAN-MARIE CUILLEROT  | 03/01/2016                       |
| ANJA VON HEYDEBRECK   | 03/04/2016                       |
| GUOJUN YUAN   | 03/18/2016                       |
| <b>RECEIVING PARTY DATA</b>   |                                  |
| <b>Name:</b>  | MERCK PATENT GMBH                |
| <b>Street Address:</b>  | FRANKFURTER STRASSE 250          |
| <b>City:</b>  | DARMSTADT                        |
| <b>State/Country:</b>   | GERMANY                          |
| <b>Postal Code:</b>   | 64293                            |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                  |
| <b>Property Type</b>  | <b>Number</b>                    |
| Application Number:   | 15553437                         |
| <b>CORRESPONDENCE DATA</b>  |                                  |
| <b>Fax Number:</b>  | (202)942-5999                    |
| <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>   | 2029425000                       |
| <b>Email:</b>   | Sandra.Tartisel@ArnoldPorter.com |
| <b>Correspondent Name:</b>  | ARNOLD & PORTER KAYE SCHOLER LLP |
| <b>Address Line 1:</b>  | 601 MASSACHUSETTS AVE., NW       |
| <b>Address Line 2:</b>  | ATTN: IP DOCKETING               |
| <b>Address Line 4:</b>  | WASHINGTON, D.C. 20001           |
| <b>ATTORNEY DOCKET NUMBER:</b>  | P34551US05/1100893.00005         |
| <b>NAME OF SUBMITTER:</b>   | ALICE S. HO                      |
| <b>SIGNATURE:</b>   | /Alice S. Ho/                    |
| <b>DATE SIGNED:</b>   | 03/15/2018                       |
| <b>Total Attachments: 6</b>   |                                  |
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ASSIGNMENT

**WHEREAS, Cuillerot, Jean-Marie**, a citizen of FRANCE, residing at 5 Tower Court, SOMERVILLE, MA 02145 (UNITED STATES OF AMERICA) (hereinafter, "Assignor") has invented certain new and useful improvements relating to **PD-1 / PD-L1 INHIBITORS FOR THE TREATMENT OF NON-SMALL CELL LUNG CANCER** (hereinafter, the "Invention") as described in U.S. Provisional Patent Application No. 62/254,424, filed on NOV/12/2015 (hereinafter, the "Application"); and

**WHEREAS, Merck Patent GmbH**, an entity organized and existing under the laws of the State of GERMANY having a place of business in Frankfurter Strasse 250, 64293 DARMSTADT (GERMANY), together with any successors, assigns and legal representatives thereof (hereinafter, called the "Assignee") is desirous of acquiring the entire right, title and interest, for all countries, in and to said Invention and Application.

**NOW, THEREFORE**, for good and valuable consideration, the receipt of which is hereby acknowledged, each Assignor hereby sells, assigns, transfers and conveys unto Assignee the entire right, title and interest of such Assignor in and to said Invention and Application, and all divisions, renewals and continuations thereof, and any and all Letters Patent of the United States which may be granted thereon, and all reissues, reexaminations, and extensions thereof, and all priority rights under all available international agreements, treaties and conventions for the protection of intellectual property in its various forms in every participating country, and all applications for Letters Patent or other grants of protection of proprietary rights including, but not limited to, inventor's certificate, utility model, utility certificate, patent of importation, registration of patent and industrial design registration which may be filed, and which may be granted, upon said inventions in any countries or regions foreign to the United States, and all reissues, renewals and extensions thereof; and each Assignor hereby authorizes and requests the Commissioner for Patents and Trademarks of the United States, and all officials of countries or regions foreign to the United States having authority so to do, to issue all such Letters Patent or other grants of protection upon said inventions to the Assignee or to such nominees as it may designate;

**AND** each Assignor hereby authorizes and empowers the Assignee or nominees to invoke and claim for any application for such Letters Patent or other grants of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by a convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from such Assignor;

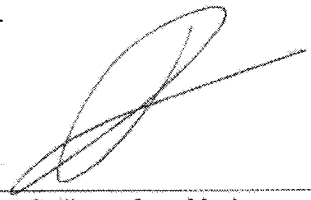
**AND** each Assignor hereby consents that a copy of this Assignment shall be deemed a full and formal equivalent of any assignment, consent to file or like document which may be required in any country or region for any purpose and more particularly in proof of the right of the Assignee or nominees to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it;

**AND** each Assignor hereby covenants that such Assignor has the full right to convey the right, title and interest herein assigned and that such Assignor has not executed and will not execute any agreement in conflict herewith;

**AND** each Assignor hereby covenants and agrees that such Assignor will communicate to Assignee or nominees all facts known to such Assignor pertaining to the Invention, and testify in all legal proceedings, sign all lawful papers, execute all divisional, continuation, substitute and reissue applications, make all rightful oaths and declarations and in general perform all lawful acts necessary or proper to aid Assignee or nominee in obtaining, maintaining and enforcing all lawful patent or other grants of protection of the Invention in any and all countries and regions.

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IN TESTIMONY WHEREOF, this Assignment is executed by Assignor on the date opposite the signature of Assignor.




03/01/2016

\_\_\_\_\_  
Cuillerot, Jean-Marie  
State of Massachusetts  
County of Middlesex SS:

\_\_\_\_\_  
Date

On this 1st day of March, 2016, before me personally appeared **Cuillerot, Jean-Marie**, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person named in and who executed the foregoing instrument and thereupon acknowledged to me that they executed the same of their own free will for the purposes set forth, and for a valuable consideration.

Heather L. Randhahn  
Notary Public

 **HEATHER L. RANDHAHN**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
January 4, 2019

[SIGNATURE PAGE TO ASSIGNMENT]

## ASSIGNMENT

WHEREAS, Heydebreck, Anja von, a citizen of GERMANY, residing at Frankfurter Strasse 66, 64293 Darmstadt (GERMANY) (hereinafter, "Assignor") has invented certain new and useful improvements relating to PD-1 / PD-L1 INHIBITORS FOR THE TREATMENT OF NON-SMALL CELL LUNG CANCER (hereinafter, the "Invention") as described in U.S. Provisional Patent Application No. 62/254,424, filed on NOV/12/2015 (hereinafter, the "Application"); and

WHEREAS, Merck Patent GmbH, an entity organized and existing under the laws of the country of GERMANY having a place of business in Frankfurter Strasse 250, 64293 DARMSTADT (GERMANY), together with any successors, assigns and legal representatives thereof (hereinafter, called the "Assignee") is desirous of acquiring the entire right, title and interest, for all countries, in and to said Invention and Application.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, each Assignor hereby sells, assigns, transfers and conveys unto Assignee the entire right, title and interest of such Assignor in and to said Invention and Application, and all divisions, renewals and continuations thereof, and any and all Letters Patent of the United States which may be granted thereon, and all reissues, reexaminations, and extensions thereof, and all priority rights under all available international agreements, treaties and conventions for the protection of intellectual property in its various forms in every participating country, and all applications for Letters Patent or other grants of protection of proprietary rights including, but not limited to, inventor's certificate, utility model, utility certificate, patent of importation, registration of patent and industrial design registration which may be filed, and which may be granted, upon said inventions in any countries or regions foreign to the United States, and all reissues, renewals and extensions thereof; and each Assignor hereby authorizes and requests the Commissioner for Patents and Trademarks of the United States, and all officials of countries or regions foreign to the United States having authority so to do, to issue all such Letters Patent or other grants of protection upon said inventions to the Assignee or to such nominees as it may designate;

AND each Assignor hereby authorizes and empowers the Assignee or nominees to invoke and claim for any application for such Letters Patent or other grants of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by a convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from such Assignor;

AND each Assignor hereby consents that a copy of this Assignment shall be deemed a full and formal equivalent of any assignment, consent to file or like document which may be required in any country or region for any purpose and more particularly in proof of the right of the Assignee or nominees to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it;

AND each Assignor hereby covenants that such Assignor has the full right to convey the right, title and interest herein assigned and that such Assignor has not executed and will not execute any agreement in conflict herewith;

AND each Assignor hereby covenants and agrees that such Assignor will communicate to Assignee or nominees all facts known to such Assignor pertaining to the Invention, and testify in all legal proceedings, sign all lawful papers, execute all divisional, continuation, substitute and reissue applications, make all rightful oaths and declarations and in general perform all lawful acts necessary or proper to aid Assignee or nominee in obtaining, maintaining and enforcing all lawful patent or other grants of protection of the Invention in any and all countries and regions.

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IN TESTIMONY WHEREOF, this Assignment is executed by Assignor on the date opposite the signature of Assignor.

*Anja von Heydebreck*  
Heydebreck, Anja von

*25-MAR-2016*  
Date

Witness:

*[Signature]*  
[Print Name] *ALPHAS II LLC*

*27-MAR-2016*  
Date

Witness:

*[Signature]*  
[Print Name] *Armin Schüner*

*2016-03-04*  
Date

[SIGNATURE PAGE TO ASSIGNMENT]

**ASSIGNMENT**

**WHEREAS, Yuan, Guojun**, a citizen of UNITED STATES OF AMERICA, residing at 4 Pocahontas Drive, WINCHESTER, MA 01890 (UNITED STATES OF AMERICA) (hereinafter, "Assignor") has invented certain new and useful improvements relating to **PD-1 / PD-L1 INHIBITORS FOR THE TREATMENT OF NON-SMALL CELL LUNG CANCER** (hereinafter, the "Invention") as described in U.S. Provisional Patent Application No. 62/254,424, filed on NOV/12/2015 (hereinafter, the "Application"); and

**WHEREAS, Merck Patent GmbH**, an entity organized and existing under the laws of the State of GERMANY having a place of business in Frankfurter Strasse 250, 64293 DARMSTADT (GERMANY), together with any successors, assigns and legal representatives thereof (hereinafter, called the "Assignee") is desirous of acquiring the entire right, title and interest, for all countries, in and to said Invention and Application.

**NOW, THEREFORE**, for good and valuable consideration, the receipt of which is hereby acknowledged, each Assignor hereby sells, assigns, transfers and conveys unto Assignee the entire right, title and interest of such Assignor in and to said Invention and Application, and all divisions, renewals and continuations thereof, and any and all Letters Patent of the United States which may be granted thereon, and all reissues, reexaminations, and extensions thereof, and all priority rights under all available international agreements, treaties and conventions for the protection of intellectual property in its various forms in every participating country, and all applications for Letters Patent or other grants of protection of proprietary rights including, but not limited to, inventor's certificate, utility model, utility certificate, patent of importation, registration of patent and industrial design registration which may be filed, and which may be granted, upon said inventions in any countries or regions foreign to the United States, and all reissues, renewals and extensions thereof; and each Assignor hereby authorizes and requests the Commissioner for Patents and Trademarks of the United States, and all officials of countries or regions foreign to the United States having authority so to do, to issue all such Letters Patent or other grants of protection upon said inventions to the Assignee or to such nominees as it may designate;

**AND** each Assignor hereby authorizes and empowers the Assignee or nominees to invoke and claim for any application for such Letters Patent or other grants of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by a convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from such Assignor;

**AND** each Assignor hereby consents that a copy of this Assignment shall be deemed a full and formal equivalent of any assignment, consent to file or like document which may be required in any country or region for any purpose and more particularly in proof of the right of the Assignee or nominees to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it;

**AND** each Assignor hereby covenants that such Assignor has the full right to convey the right, title and interest herein assigned and that such Assignor has not executed and will not execute any agreement in conflict herewith;

**AND** each Assignor hereby covenants and agrees that such Assignor will communicate to Assignee or nominees all facts known to such Assignor pertaining to the Invention, and testify in all legal proceedings, sign all lawful papers, execute all divisional, continuation, substitute and reissue applications, make all rightful oaths and declarations and in general perform all lawful acts necessary or proper to aid Assignee or nominee in obtaining, maintaining and enforcing all lawful patent or other grants of protection of the Invention in any and all countries and regions.

[remainder of page intentionally left blank]

IN TESTIMONY WHEREOF, this Assignment is executed by Assignor on the date opposite the signature of Assignor.

*Guojun Yuan*  
Yuan, Guojun

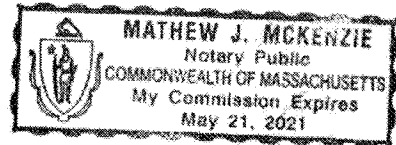
18 Mar 2016  
Date

State of MASSACHUSETTS

County of Middlesex SS:

On this 18 day of MARCH, 2016, before me personally appeared Yuan, Guojun, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person named in and who executed the foregoing instrument and thereupon acknowledged to me that they executed the same of their own free will for the purposes set forth, and for a valuable consideration.

*Mathew J. McKenzie*  
Notary Public



[SIGNATURE PAGE TO ASSIGNMENT]