504402514 06/07/2017

PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| ZHEN LI | 04/25/2017 |
| TAO PEI | 04/06/2017 |
| AGNIESZKA GLEBOCKA | 04/25/2017 |
| MICHAEL LAWLER | 04/24/2017 |
| FRED FLEITZ | 04/18/2017 |
| ERICH ALTENHOFER | 04/24/2017 |
| PANKAJ KUMAR | 04/06/2017 |

RECEIVING PARTY DATA

| Name: | ARROWHEAD PHARMACEUTICALS, INC. |
|-----------------|---------------------------------|
| Street Address: | 225 SOUTH LAKE AVENUE |
| City: | PASADENA |
| State/Country: | CALIFORNIA |
| Postal Code: | 91101 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15452324 |

CORRESPONDENCE DATA

Fax Number:

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.

Phone: 608-316-3984

Email: patents@arrowheadpharma.com
Correspondent Name: ROBERT MICHAEL TEIGEN

Address Line 1: 502 S. ROSA ROAD

Address Line 4: MADISON, WISCONSIN 53719

| ATTORNEY DOCKET NUMBER: | 30641-US1 |
|-------------------------|-------------------------|
| NAME OF SUBMITTER: | ROBERT MICHAEL TEIGEN |
| SIGNATURE: | /Robert Michael Teigen/ |
| DATE SIGNED: | 06/07/2017 |

PATENT REEL: 042638 FRAME: 0675

Total Attachments: 5 source=30641_US1_Assignment#page1.tif source=30641_US1_Assignment#page2.tif source=30641_US1_Assignment#page3.tif source=30641_US1_Assignment#page4.tif source=30641_US1_Assignment#page5.tif

PATENT REEL: 042638 FRAME: 0676

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we, Zhen Li, of Monona, Wisconsin; Tao Pei, of Middleton, Wisconsin; Agnieszka Glebocka, of Madison, Wisconsin; Michael Lawler, of Mequon, Wisconsin; Fred Fleitz, of Germantown, Wisconsin; Erich Altenhofer, of Madison, Wisconsin; and Pankaj Kumar, of Madison, Wisconsin, hereby assign to: ARROWHEAD PHARMACEUTICALS, INC., a corporation of Delaware, having a place of business at 225 South Lake Avenue, Suite 1050, Pasadena, California, 91101; and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title, and interest throughout the world in the inventions and improvements which are the subject of and described and/or claimed in a provisional application for United States Patent, entitled "Targeting Ligands," filed on March 7, 2017, and assigned U.S. Serial Number 15/452,324; this assignment including said application, any and all United States and foreign patents, utility patents and models, continuations, continuations-in-part, divisionals, reexaminations, reissues, and design registrations granted for any of said inventions or improvements, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and this assignment also including, without limitation, any claims (known or unknown, suspected or unsuspected) of any nature that we have or may have against any party for infringement of any of the patents and patent applications listed herein, and the right to sue for past infringement and to recover and retain damages and profits in respect thereof; and

we authorize the Assignee to apply in all countries in our name or in its own name for patents, utility models, design registrations, and like rights of exclusion and for inventors' certificates for said inventions and improvements; and

we hereby covenant and agree that we will communicate to the Assignee or nominees all facts known to us pertaining to said inventions and improvements, and we agree for ourselves and our respective heirs, legal representatives, and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, reissues, Preliminary Statements, and other lawful documents, testify in all legal proceedings, make all rightful oaths and declarations, and in general perform or cause to be performed all lawful acts necessary or proper to aid the Assignee or nominees in obtaining, maintaining, and enforcing all lawful patent protection for the inventions and improvements in the United States and in foreign countries; and

we hereby covenant that we have the full right to convey the entire right, title, and interest herein assigned and that we have not executed and will not execute any agreement in conflict herewith.

| In Witness Whe | REOF, I hereto se | et my hand and seal at Madison, Wisconsin, this 😅 📉 |
|---|-------------------|--|
| day of | , 2017. | > Qul |
| | Zhen Li | 2 m |
| State of Wisconsin County of Dane | | |
| Before me this 2 d person whose name is sub same as her free act and de | scribed to the fo | 2017, personally appeared Zhen Li known to me to be the pregoing Assignment and acknowledged that she executed the oses therein contained. |
| | | Carolne a. Chustion |
| | | Caroline A. Christian |
| | | Notary Public, Brown County, WI My commission expires: 11/03/2018 |
| IN WITNESS WHE day of <u>April</u> | | et my hand and seal at Madison, Wisconsin, this |
| | **** | The state of the s |
| | Tao Pei | |
| State of Wisconsin | | |
| County of Dane | j | |
| Before me this led person whose name is sub same as his free act and de | scribed to the fo | _, 2017, personally appeared Tao Pei known to me to be the bregoing Assignment and acknowledged that he executed the bases therein contained. |
| | | Carolinea Charton |
| | | Caroline A. Christian |
| | | Notary Public, Brown County, WI |
| | | My commission expires: 11/03/2018 |

| In Witness Where | OF, I hereto set my hand and seal at Madison, Wisconsin, this |
|---|--|
| day of April | , 2017. |
| , | Sylelesche |
| | Agnieszka Glebocka |
| State of Wisconsin County of Dane | |
| be the person whose name is | y of April, 2017, personally appeared Agnieszka Glebocka known to me to subscribed to the foregoing Assignment and acknowledged that she executed deed for the purposes therein contained. |
| | Caroline a. Christian |
| | Caroline A. Christian Notary Public, Brown County, WI My commission expires: 11/03/2018 |
| In Witness Where day of <u>April</u> | OF, I hereto set my hand and seal at Madison, Wisconsin, this 24 |
| | Michael Lawler |
| State of Wisconsin County of Dane | |
| to be the person whose name | of April, 2017, personally appeared Michael Lawler known to me e is subscribed to the foregoing Assignment and acknowledged that he e act and deed for the purposes therein contained. Caroline a. Chustian |
| | Caroline A. Christian Notary Public, Brown County, WI My commission expires: 11/03/2018 |

| IN WITNESS WHER | FOF, I hereto set my hand and seal at Madison, Wisconsin, this/& |
|--------------------------------------|--|
| day of april | , 2017. |
| | |
| | |
| | Fred Fleitz |
| State of Wisconsin County of Dane | |
| the person whose name is s | by of, 2017, personally appeared Fred Fleitz known to me to be subscribed to the foregoing Assignment and acknowledged that he executed the ed for the purposes therein contained. |
| | Caroline a. Churtia |
| | Caroline A. Christian |
| | Notary Public, Brown County, WI |
| | My commission expires: 11/03/2018 |
| $\mathcal{M} \sim 1$ | EOF, I hereto set my hand and seal at Madison, Wisconsin, this |
| | EL MU |
| e e | Erich Altenhofer |
| State of Wisconsin County of Dane | |
| to be the person whose nan | by of 4000, 2017, personally appeared Erich Altenhofer known to me is subscribed to the foregoing Assignment and acknowledged that he ee act and deed for the purposes therein contained. |
| | Caroline a Chustians |
| | Caroline A. Christian |
| | Notary Public, Brown County, WI |
| | COURT CONTRACTOR CONTR |

| IN WITNESS WHEREOF, I hereto so | et my hand and seal at Madison, Wisconsin, this |
|---|--|
| day of <u>APRIL</u> , 2017. | |
| ** | Ran-P |
| Pankaj K | umar |
| State of Wisconsin County of Dane | |
| Before me this day of up to be the person whose name is subscribed to the same as his free act and deed for the p | 1, 2017, personally appeared Pankaj Kumar known to me to the foregoing Assignment and acknowledged that he executed urposes therein contained. |
| | Carolnea Christian |
| | Caroline A. Christian Notary Public, Brown County, WI My commission expires: 11/03/2018 |