07/08/2014 502881892

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT2928489

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------------------------|----------------|
| AKITO CHINEN | 05/27/2014 |
| HIROSHI IZUI | 06/23/2014 |
| YOSHIHIKO HARA | 05/27/2014 |
| HISASHI YASUEDA | 05/28/2014 |
| KONSTANTIN VYACHESLAVOVICH RYBAK | 05/27/2014 |
| EKATERINA ALEKSANDROVNA SLIVINSKAYA | 05/27/2014 |
| JOANNA YOSIFOVNA KATASHKINA | 05/27/2014 |

RECEIVING PARTY DATA

| Name: | AJINOMOTO CO., INC. |
|-----------------|---------------------------------|
| Street Address: | 15-1, KYOBASHI 1-CHOME, CHUO-KU |
| City: | TOKYO |
| State/Country: | JAPAN |
| Postal Code: | 104-8315 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14268110 |

CORRESPONDENCE DATA

Fax Number: (703)717-9392

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: 703 717 9350

Email: cgoode@cermaknakajima.com SHELLY GUEST CERMAK **Correspondent Name:** 127 S. PEYTON STREET Address Line 1:

Address Line 2: **SUITE 210**

Address Line 4: ALEXANDRIA, VIRGINIA 22314

| ATTORNEY DOCKET NUMBER: | US-176C2 |
|-------------------------|---------------------|
| NAME OF SUBMITTER: | CHRISTOPHER GOODE |
| SIGNATURE: | /Christopher Goode/ |
| DATE SIGNED: | 07/08/2014 |

PAIENI **REEL: 033256 FRAME: 0728** 502881892

This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 12

source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page1.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page2.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page3.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page4.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page5.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page6.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page7.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page8.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page9.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page10.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page11.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page11.tif source=2014-07-08T_US-176C2_Combined_Assignment_and_Declaration#page12.tif

PATENT REEL: 033256 FRAME: 0729

COMBINED ASSIGNMENT AND DECLARATION FOR UTILITY OR **DESIGN PATENT APPLICATION** (JOINT)

DECLARATION

As a below named inventor, I hereby declare that:

This declaration is directed to:

THE USE OF PHOSPHOKETOLASE FOR PRODUCING USEFUL METABOLITES which (check only one item below): is attached hereto and/or is deposited in the United States Patent and Trademark Office on even date herewith. M was filed as United States Patent application Number 14/268,110 on May 2, 2014 and was amended on ____ (if applicable). was filed as PCT International application Number ____ on ____ and was amended on ____ (if applicable). The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor (if only one name is listed below) or an original joint inventor (if plural names are listed below) of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine, or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

THIS ASSIGNMENT, by <u>Yury Ivanovich KOZLOV</u>, <u>Akito CHINEN</u>, <u>Hiroshi IZUI</u>, <u>Yoshihiko HARA</u>, <u>Hisashi YASUEDA</u>, <u>Konstantin Vyacheslavovich RYBAK</u>, <u>Ekaterina Aleksandrovna SLIVINSKAYA</u>, and Joanna Yosifovna KATASHKINA, (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements set forth in an application for Letters Patent of the United States identified above,

WHEREAS, Ajinomoto Co., Inc., a corporation duly organized under and pursuant to the laws of Japan and having a principal place of business at 15-1, Kyobashi 1-chome, Chuo-ku, Tokyo 104-8315, Japan (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

- 1 -

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made:

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby authorize and request the attorneys of Cermak Nakajima LLP, of Alexandria, Virginia, to insert in the spaces provided above the filing date, application number, and attorney's docket number of said application when known.

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

| DATESIGNATURE OF FIRST INVENTOR | |
|--|-----------------------|
| | YURY IVANOVJCH KOZLOV |
| DATE 2014/5/27 SIGNATURE OF SECOND INVENTO | R While Chian |
| | ÁKITO CHINEN |
| DATE SIGNATURE OF THIRD INVENTOR | |
| | HIROSHI IZUI |

-2-

| DATE | SIGNATURE OF FOURTH INVENTOR | |
|------|-------------------------------|--|
| | _ | YOSHIHIKO HARA |
| DATE | SIGNATURE OF FIFTH INVENTOR _ | |
| | | HISASHI YASUEDA |
| DATE | SIGNATURE OF SIXTH INVENTOR | |
| | | KONSTANTIN VYACHESLAVOVICH RYBAK |
| DATE | SIGNATURE OF SEVENTH INVENTOR | |
| | | EKATERINA ALEKSANDROVNA SLIVINSKAYA |
| DATE | SIGNATURE OF EIGHTH INVENTOR | |
| | | JOANNA YOSIFOVNA KATASHKINA |

COMBINED ASSIGNMENT AND DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (JOINT)

DECLARATION

As a below named inventor, I hereby declare that:

This declaration is directed to:

| THE USE OF PHOSPHOKETOLASE FOR PRODUCING USEFUL METABOLITES | | |
|---|--|--|
| which (check c | only one item below): | |
| | is attached hereto and/or is deposited in the United States Patent and Trademark Office on even date herewith. | |
| | was filed as United States Patent application Number <u>14/268,110</u> on <u>May 2, 2014</u> and was amended on (if applicable). | |
| | was filed as PCT International application Number on and was amended on (if applicable). | |
| The above-identified application was made or authorized to be made by me. | | |

I believe that I am the original inventor (if only one name is listed below) or an original joint inventor (if plural names are listed below) of a claimed invention in the application.

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ASSIGNMENT

THIS ASSIGNMENT, by <u>Yury Ivanovich KOZLOV</u>, <u>Akito CHINEN</u>, <u>Hiroshi IZUI</u>, <u>Yoshihiko HARA</u>, <u>Hisashi YASUEDA</u>, <u>Konstantin Vyacheslavovich RYBAK</u>, <u>Ekaterina Aleksandrovna SLIVINSKAYA</u>, and <u>Joanna Yosifovna KATASHKINA</u>, (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements set forth in an application for Letters Patent of the United States identified above,

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AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

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| DATESIGNATURE OF FIRST INVENTOR | YURY IVANOVICH KOZLOV |
|--|-----------------------|
| DATESIGNATURE OF SECOND INVENTOR | 3 |
| | AKITO CHINEN |
| DATE 0423/2014 SIGNATURE OF THIRD INVENTOR | gandn. |
| | HIROSHUZUI |

- 2 -

| DATE | SIGNATURE OF FOURTH INVENTOR _ | |
|------|--------------------------------|--|
| | _ | YOSHIHIKO HARA |
| DATE | SIGNATURE OF FIFTH INVENTOR _ | |
| | | HISASHI YASUEDA |
| DATE | SIGNATURE OF SIXTH INVENTOR | |
| | | KONSTANTIN VYACHESLAVOVICH RYBAK |
| DATE | SIGNATURE OF SEVENTH INVENTOR | |
| | | EKATERINA ALEKSANDROVNA SLIVINSKAYA |
| DATE | SIGNATURE OF EIGHTH INVENTOR | |
| | • | JOANNA YOSIFOVNA KATASHKINA |

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| DATE | SIGNATURE OF FIRST INVENTOR | |
|------|--------------------------------|-----------------------|
| | | YURY IVANOVICH KOZLOV |
| DATE | _ SIGNATURE OF SECOND INVENTOR | |
| | | AKITO CHINEN |
| DATE | SIGNATURE OF THIRD INVENTOR | |
| | - - | HIROSHI IZUI |

- 2 -

| DATE 2014/5/2 | 7 SIGNATURE OF FOURTH INVENTOR $_{	ext{	iny 2}}$ | |
|----------------|---|--|
| | | YŎSHIHIKO HARA |
| DATE 2014/5/28 | SIGNATURE OF FIFTH INVENTOR | Hisaski Jasueda |
| . , | | HIŠASHI YASUÉDA |
| DATE | SIGNATURE OF SIXTH INVENTOR | |
| | | KONSTANTIN VYACHESLAVOVICH RYBAK |
| DATE | SIGNATURE OF SEVENTH INVENTOR | |
| | | EKATERINA ALEKSANDROVNA SLIVINSKAYA |
| DATE | SIGNATURE OF EIGHTH INVENTOR | |
| | | JOANNA YOSIFOVNA KATASHKINA |

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| DATE | _ SIGNATURE OF FIRST INVENTOR | | |
|------|--------------------------------|-----------------------|--|
| | | YURY IVANOVICH KOZLOV | |
| DATE | _ SIGNATURE OF SECOND INVENTOR | | |
| | | AKITO CHINEN | |
| DATE | _ SIGNATURE OF THIRD INVENTOR | | |
| | | HIROSHI IZUI | |

- 2 -

| DATE | SIGNATURE OF FOURTH INVENTOR | |
|-----------------|-------------------------------|--|
| | _ | YOSHIHIKO HARA |
| DATE | SIGNATURE OF FIFTH INVENTOR | |
| | | HISASHI YASUEDA |
| DATE 27.05.2014 | SIGNATURE OF SIXTH INVENTOR | |
| | | KONSTANTIN VYACHESLAVOVICH |
| 94 00 110 | | RYBAK |
| DATE X7. ES. 14 | SIGNATURE OF SEVENTH INVENTOR | |
| | | EKATERINA ALEKSANDROVNA SLIVINSKAYA |
| 011.011 | / | |
| DATE & 1.05.17 | SIGNATURE OF EIGHTH INVENTOR | Man |
| | | JOANNA YOSIFOVNA KATASHKINA |