PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4195012

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------------------|----------------|
| WILLMAR POULTRY COMPANY, INC. | 04/28/2005 |

RECEIVING PARTY DATA

| Name: | EPITOPIX LLC |
|-----------------|------------------------|
| Street Address: | 1801 BIOTECH AVENUE NE |
| City: | WILLMAR |
| State/Country: | MINNESOTA |
| Postal Code: | 56201 |

PROPERTY NUMBERS Total: 1

| Property Type | Number | |
|---------------------|----------|--|
| Application Number: | 15370797 | |

CORRESPONDENCE DATA

Fax Number: (612)305-1228

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: 612-305-1220

Email: lwest@mrgiplaw.com

Correspondent Name: MUETING, RAASCH & GEBHARDT, P.A.

Address Line 1: PO BOX 581336

Address Line 4: MINNEAPOLIS, MINNESOTA 55458-1336

| ATTORNEY DOCKET NUMBER: | 293.00340106 |
|-------------------------|-----------------------|
| NAME OF SUBMITTER: | CHRISTOPHER D. GRAM |
| SIGNATURE: | /Christopher D. Gram/ |
| DATE SIGNED: | 12/21/2016 |

Total Attachments: 4

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PATENT 504148339 REEL: 041090 FRAME: 0732

ASSIGNMENT

WHEREAS, Willmar Poultry Company, Inc., a corporation organized under the laws of the State of Minnesota and having an office and place of business at 3735 County Road 5, Willmar, Minnesota 56201 (hereinafter referred to as "Willmar Poultry"), is the sole Assignee of the entire right, title, and interest in, and/or has an ownership interest in, inventions described in:

Patent Applications:

| Filing Date | Title | Serial Number | Country |
|-------------|--|------------------|---------|
| 12-31-03 | In Ovo Delivery of an Immunogen Containing Implant | 10/749.602 | US |
| 11-21-00 | In Ovo Delivery of an Immunogen Containing Implant | PCT/US00/32080 | PCT |
| 11-21-00 | In Ovo Delivery of an Immunogen Containing Implant | 00980673.8 | ЕРО |
| 01-03-02 | Immunizing Compositions and Methods of Use | 10/038,504 | US |
| 06-03-03 | Immunizing Compositions and Methods of Use | 10/454,305 | US |
| 06-03-03 | Immunizing Compositions and Methods of Use | 10/454,306 | US |
| 04-22-04 | Immunizing Compositions and Methods of Use | 10/830,258 | us |
| 04-22-04 | Immunizing Compositions and Methods of Use | 10/829,838 | US |
| 04-22-04 | Immunizing Compositions and Methods of Use | 10/829,775 | US |
| 01-03-01 | Immunizing Compositions and Methods of Use | 60/259,504 | US |
| 01-03-02 | Immunizing Compositions and Methods of Use | PCT/US02/00188 | PCT |
| 01-03-02 | Immunizing Compositions and Methods of Use | 02705685.2 | EPO |
| 01-03-02 | Immunizing Compositions and Methods of Use | PA/a/2003/006038 | MX |
| 01-03-02 | Immunizing Compositions and Methods of Use | 526786 | NZ |
| 01-03-02 | Immunizing Compositions and Methods of Use | 2,433,561 | CA |
| 01-03-02 | Immunizing Compositions and Methods of Use | 2002239820 | AU |
| 01-03-02 | Immunizing Compositions and Methods of Use | PI0206293-3 | BR |
| 01-19-01 | Immunizing Compositions and Methods for Horses | 60/262,896 | US |
|)2-09-94 | Active Immunization Using a Siderophore Receptor Protein | 08/194,040 | US |
| 06-28-02 | Active Immunization Using a Siderophore Receptor Protein | 10/185,498 | us |
| 2-09-95 | Active Immunization Using a Siderophore Receptor Protein | PCT/US95/01739 | PCT |
| 9-05-96 | Active Immunization Using a Siderphore Receptor Protein | 95911683.1 | EP |

| 02-09-95 | Active Immunization Using a Siderphore Receptor Protein | 2,182,976 | CA |
|----------|---|-------------------|-----|
| 02-02-95 | Method of Priming an Immune Response in a One-Day Old Animal | PCT/US95/01304 | РСТ |
| 01-02-95 | Method of Priming an Immune Response in a One-Day Old Animal | 2,194,448 | CA |
| 08-12-94 | Method for Purifying Egg Yolk Immunoglobulins | PCT/US94/09148 | PCT |
| 08-12-94 | Method for Purifying Egg Yolk Immunoglobulins | 2,171,317 | CA |
| 09-20-04 | Compositions Produced Using Enteric Pathogens & Methods of Use | 10/946,647 | US |
| 09-19-03 | Compositions Produced Using Enteric Pathogens & Methods of Use | 60/504,119 | US |
| 02-14-05 | Gram Positive Outer Membrane Proteins & Methods of Use | 60/652,843 | US |
| 09-20-04 | Campylobacter Polypeptides and Methods of Use | 10/945,847 | US |
| 09-20-04 | Campylobacter Polypoptides and Methods of Use | PCT/US2004/030873 | РСТ |
| 08-25-04 | Fusobacterium Polypeptides & Methods of Use | 60/604,349 | US |
| 01-21-05 | Yersinia SPP Polypeptides & Methods of Use | 60/646,106 | US |

Issued Patents:

| Issue Date | Title | Patent Number | Country |
|------------|---|-----------------------------------|---------|
| 01-27-04 | In Ovo Delivery of an Immunogen Containing Implant | 6,682,754 | US |
| 11-03-98 | Active Immunization Using a Siderophore Receptor Protein | 5,830,479 | ÜS |
| 02-22-00 | Active Immunization Using a Siderophore Receptor Protein | 6,027,736 | US |
| 08-13-02 | Active Immunization Using a Siderophere Receptor Protein | 6,432,412 | US |
| 07-23-96 | Method of Priming an Immune Response in a One-Day Old Animal | 5,538.733 | US |
| 05-25-99 | Method of Inducing an Immune Response in a Young Animal | 5,906,826 | us |
| 02-02-95 | Method of Priming an Immune Response in a One-Day Old Animal | 95938205.2 EP Pat. No. 0804164 | EP |

| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | GB |
|----------|---|-----------|-----|
| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | DE |
| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | FR |
| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | NL |
| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | BE |
| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | DK |
| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | lE |
| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | 117 |
| 08-14-02 | Method of Priming an Immune Response in a One-Day Old Animal | 0804164 | ES |
| 05-30-95 | Method for Purifying Egg Yolk Immunoglobulins | 5,420,253 | US |

AND WHEREAS. Willmar Poultry is the sole assignee of the entire right, title, and interest in, and/or has an ownership interest in, the above identified inventions, patent applications and issued patents;

AND WHEREAS, Epitopix LLC., a corporation organized under the laws of the State of Minnesota and having an office and place of business at 3735 County Road 5, Willmar, Minnesota 56201 (hereinafter referred to as the "Epitopix"), wishes to acquire said entire right, title, and interest in and to, and/or said ownership interest in and to, said inventions and to said applications and Letters Patents (both U.S. and foreign) to be obtained therefor, and also to said issued Letters Patents recited herein and any Letters Patents (both U.S. and foreign) corresponding thereto;

NOW, THEREFORE, for good and valuable consideration, receipt and sufficiency of which is acknowledged, Willmar Poultry hereby agrees to assign and transfer and does hereby assign and transfer unto Epitopix, its successors and assigns, said entire right, title, and interest in and to, and/or said ownership interest in and to, said inventions and to said applications and Letters Patents (both U.S. and foreign) to be obtained therefor, and also to said issued Letters Patents recited herein and any Letters Patents (both U.S. and foreign) corresponding thereto, and in and to any divisions or continuations (in whole or in part), or renewals thereof, of said inventions and of said applications and of said Letters Patents, and in and to any and all improvements to said inventions and said applications and said Letters Patents made by employees of Willmar Poultry, individually or jointly with others, and in and to any and all Letters Patents, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patents, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon said inventions and said applications and said Letters Patents, or

improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by Willmar Poultry had this assignment and transfer not been made;

Willmar Poultry hereby agrees that Willmar Poultry, its successors, and legal representatives will make, execute, and deliver without any further consideration any and all other instruments in writing including any and all further application papers, affidavits, assignments, and other documents, and will communicate to Epitopix, its successors and assigns all facts known to Willmar Poultry relating to said inventions and said applications and said Letters Patents, and the histories thereof and will testify in all legal proceedings and generally do all things deemed necessary or desirable by Epitopix to vest in Epitopix, its successors or assigns to secure said entire right, title, and interest in and to, and/or said ownership interest in and to, said inventions, said applications, and said Letters Patent, including all benefits, privileges, and advantages, that are hereby sold, assigned and conveyed, or intended so to be.

Willmar Poultry represents and agrees with Epitopix, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by Willmar Poultry, and that full rights to convey the same as herein expressed is possessed by Willmar Poultry.

IN TESTIMONY WHEREOF, the below-identified representative of the Willmar Poultry, being duly authorized to act on behalf of Willmar Poultry, has hereunto set his hand on the date as indicated below.

Date: 4-28-05

Signed Name

Typed or Printed Name: Theory (