PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3371503

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

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| HORST ROSE | 05/13/2015 |
| DANIA BIRTE REICHE | 04/02/2015 |
| HARALD TAMMEN | 04/02/2015 |

RECEIVING PARTY DATA

| Name: | Boehringer Ingelheim Vetmedica GmbH | |
|-----------------|-------------------------------------|--|
| Street Address: | Binger Strasse 173 | |
| City: | Ingelheim am Rhein | |
| State/Country: | GERMANY | |
| Postal Code: | 55216 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14670670 |

CORRESPONDENCE DATA

Fax Number: (203)837-5616

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.

Email: christina.ostorga@boehringer-ingelheim.com

Correspondent Name: MICHAEL P. MORRIS
Address Line 1: 900 RIDGEBURY ROAD

Address Line 2: P.O. BOX 368

Address Line 4: RIDGEFIELD, CONNECTICUT 06877

| ATTORNEY DOCKET NUMBER: 01-3045-US-1 | |
|--------------------------------------|------------|
| NAME OF SUBMITTER: JOYCE L. MORRISON | |
| SIGNATURE: /Joyce L. Morrison/ | |
| DATE SIGNED: | 05/28/2015 |

Total Attachments: 6

503324885

 $source = 01\text{--}3045\text{--}US\text{--}1\text{--}Assignment \#page 1.tif}$

source=01-3045-US-1-Assignment#page2.tif

source=01-3045-US-1-Assignment#page3.tif

source=01-3045-US-1-Assignment#page4.tif

PATENT REEL: 035730 FRAME: 0001 source=01-3045-US-1-Assignment#page5.tif source=01-3045-US-1-Assignment#page6.tif

PATENT REEL: 035730 FRAME: 0002

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned ("the Assignors"):

Application Authority Type Primary Citizenship Country

Status Given Name Family Name City of Residence Country of Residence

Mailing Address

Street of Mailing Address City of mailing address

Country of mailing address Postal or Zip Code of mailing address

Application Authority Type Primary Citizenship Country

Status Given Name Middle Name **Family Name** City of Residence

Country of Residence

Mailing Address

Street of Mailing Address

City of mailing address Country of mailing address

Postal or Zip Code of mailing address

Application Authority Type Primary Citizenship Country

Status Given Name **Family Name** City of Residence **Country of Residence**

Mailing Address City of mailing address Country of mailing address

Postal or Zip Code of mailing address

Inventor Germany Full Capacity

Horst **ROSE** Burgdorf Germany

Boehringer Ingelheim GmbH

Corporate Patents Binger Strasse 173 Ingelheim am Rhein

Germany 55216

Inventor Germany **Full Capacity** Dania Birte

REICHE Bingen am Rhein

Germany

Boehringer Ingelheim GmbH

Corporate Patents Binger Strasse 173 Ingelheim am Rhein

Germany 55216

Inventor Germany Full Capacity Harald **TAMMEN** Hannover Germany

Pfluegerstrasse 13

Hannover Germany 30655

hereby sell, assign and transfer to Boehringer Ingelheim Vetmedica GmbH, a corporation of the Federal Republic of Germany, having a place of business at Binger Strasse 173, 55216 Ingelheim am Rhein, Fed. Republic of Germany, its successors, assigns and legal

representatives (collectively "the Assignee"), our entire right, title and interest, including all rights of priority, in and to the application for United States Letters Patent which is entitled:

IMPROVED MODULAR ANTIGEN TRANSPORTATION MOLECULES AND USES THEROF ("the Application")

| which | THE COLUMN TO THE PROPERTY OF |
|-------------|---|
| | was executed by the Assignors on |
| \boxtimes | was deposited with the United States Patent and Trademark Office on March 27, 2015 and accorded Serial No.: 14/670,670 |

and any and all improvements which are disclosed in the Application ("the Improvements") and all provisional, divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States or any other country on any of the Improvements, and in and to all original and reissued patents which have been or shall be issued in the United States or any other country on the Improvements;

Agree that the Assignee may apply for and receive Letters Patent for the Improvements in its own name or in Assignors' names, and that, when requested, without charge to but at the expense of the Assignee to carry out in good faith the intent and purpose of this assignment, the Assignors will execute all provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all of the Improvements, execute all rightful oaths, assignments, powers of attorney, and other papers, communicate to the Assignee all facts known to the Assignors relating to the Improvements and the history thereof, participate and assist in any judicial or administrative proceedings concerning the Improvements, and generally do everything possible which the Assignee considers desirable for aiding in securing and maintaining proper patent protection for the improvements and for vesting title to the Improvements and all applications for patents and all patents on the Improvements in the Assignee; and

Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property in the Improvements herein conveyed has been made to others by the Assignors, and that full right to convey the same as herein expressed is possessed by the Assignors.

| SIGNATURE OF INVENTOR | DATE |
|-----------------------|--------------|
| Horst ROSE BYX Rose | May 13, 2015 |
| Dania Birte REICHE | 7 |
| Harald TAMMEN | |

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned ("the Assignors"):

Application Authority Type Primary Citizenship Country Status

Given Name Family Name City of Residence Country of Residence

Mailing Address

Street of Mailing Address City of mailing address Country of mailing address

Postal or Zip Code of mailing address

Application Authority Type Primary Citizenship Country

Status Given Name Middle Name **Family Name** City of Residence Country of Residence

Mailing Address

Street of Mailing Address City of mailing address

Country of mailing address Postal or Zip Code of mailing address

Application Authority Type Primary Citizenship Country

Status Given Name Family Name City of Residence Country of Residence **Mailing Address**

City of mailing address Country of mailing address

Postal or Zip Code of mailing address

Inventor Germany Full Capacity

Horst ROSE Burgdorf Germany

Boehringer Ingelheim GmbH

Corporate Patents Binger Strasse 173 Ingelheim am Rhein

Germany 55216

Inventor Germany Full Capacity Dania Birte REICHE

Bingen am Rhein

Germany

Boehringer Ingelheim GmbH

Corporate Patents Binger Strasse 173 Ingelheim am Rhein

Germany 55216

Inventor Germany **Full Capacity** Harald **TAMMEN** Hannover Germany

Pfluegerstrasse 13

Hannover Germany 30655

hereby sell, assign and transfer to Boehringer Ingelheim Vetmedica GmbH, a corporation of the Federal Republic of Germany, having a place of business at Binger Strasse 173, 55216 Ingelheim am Rhein, Fed. Republic of Germany, its successors, assigns and legal

representatives (collectively "the Assignee"), our entire right, title and interest, including all rights of priority, in and to the application for United States Letters Patent which is entitled:

IMPROVED MODULAR ANTIGEN TRANSPORTATION MOLECULES AND USES THEROF ("the Application")

| which | |
|-------|---|
| | was executed by the Assignors on |
| | was deposited with the United States Patent and Trademark Office on March 27, 2015, and accorded Serial No.: 14/670,670 |

and any and all improvements which are disclosed in the Application ("the Improvements") and all provisional, divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States or any other country on any of the Improvements, and in and to all original and reissued patents which have been or shall be issued in the United States or any other country on the Improvements;

Agree that the Assignee may apply for and receive Letters Patent for the Improvements in its own name or in Assignors' names, and that, when requested, without charge to but at the expense of the Assignee to carry out in good faith the intent and purpose of this assignment, the Assignors will execute all provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all of the Improvements, execute all rightful oaths, assignments, powers of attorney, and other papers, communicate to the Assignee all facts known to the Assignors relating to the Improvements and the history thereof, participate and assist in any judicial or administrative proceedings concerning the Improvements, and generally do everything possible which the Assignee considers desirable for aiding in securing and maintaining proper patent protection for the improvements and for vesting title to the Improvements and all applications for patents and all patents on the Improvements in the Assignee; and

Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property in the Improvements herein conveyed has been made to others by the Assignors, and that full right to convey the same as herein expressed is possessed by the Assignors.

| SIGNATURE OF INVENTOR | DATE |
|-----------------------|------------|
| | |
| Horst ROSE | |
| Dania Birte REICHE | 04-02-2015 |
| | |
| Harald TAMMEN | |

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned ("the Assignors"):

Application Authority Type Primary Citizenship Country

Status Given Name **Family Name** City of Residence **Country of Residence**

Mailing Address

Street of Mailing Address City of mailing address

Country of mailing address Postal or Zip Code of mailing address

Application Authority Type Primary Citizenship Country

Status Given Name Middle Name Family Name City of Residence Country of Residence

Mailing Address

Street of Mailing Address City of mailing address

Country of mailing address

Postal or Zip Code of mailing address

Application Authority Type Primary Citizenship Country

Status Given Name **Family Name** City of Residence Country of Residence **Mailing Address**

City of mailing address Country of mailing address

Postal or Zip Code of mailing address

Inventor Germany Full Capacity

Horst ROSE Burgdorf Germany

Boehringer Ingelheim GmbH

Corporate Patents Binger Strasse 173 Ingelheim am Rhein

Germany 55216

Inventor Germany Full Capacity Dania Birte REICHE

Bingen am Rhein

Germany

Boehringer Ingelheim GmbH

Corporate Patents Binger Strasse 173 Ingelheim am Rhein

Germany 55216

Inventor Germany Full Capacity Harald **TAMMEN** Hannover Germany

Pfluegerstrasse 13

Hannover Germany 30655

hereby sell, assign and transfer to Boehringer Ingelheim Vetmedica GmbH, a corporation of the Federal Republic of Germany, having a place of business at Binger Strasse 173. 55216 Ingelheim am Rhein, Fed. Republic of Germany, its successors, assigns and legal

representatives (collectively "the Assignee"), our entire right, title and interest, including all rights of priority, in and to the application for United States Letters Patent which is entitled:

IMPROVED MODULAR ANTIGEN TRANSPORTATION MOLECULES AND USES THEROF ("the Application")

| which | (in represent) |
|-------------|---|
| | was executed by the Assignors on |
| \boxtimes | was deposited with the United States Patent and Trademark Office on March 27, 2015, and accorded Serial No.: 14/670,670 |

and any and all improvements which are disclosed in the Application ("the Improvements") and all provisional, divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States or any other country on any of the Improvements, and in and to all original and reissued patents which have been or shall be issued in the United States or any other country on the Improvements;

Agree that the Assignee may apply for and receive Letters Patent for the Improvements in its own name or in Assignors' names, and that, when requested, without charge to but at the expense of the Assignee to carry out in good faith the intent and purpose of this assignment, the Assignors will execute all provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all of the Improvements, execute all rightful oaths, assignments, powers of attorney, and other papers, communicate to the Assignee all facts known to the Assignors relating to the Improvements and the history thereof, participate and assist in any judicial or administrative proceedings concerning the Improvements, and generally do everything possible which the Assignee considers desirable for aiding in securing and maintaining proper patent protection for the improvements and for vesting title to the Improvements and all applications for patents and all patents on the Improvements in the Assignee; and

Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property in the Improvements herein conveyed has been made to others by the Assignors, and that full right to convey the same as herein expressed is possessed by the Assignors.

| SIGNATURE OF INVENTOR | DATE |
|-----------------------|---------------|
| | |
| Horst ROSE | |
| | |
| Dania Birte REICHE | |
| Harald TAMMEN | April 2, 2015 |

2