

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5208774

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
KIM BURGARD	02/26/2012
JEREMY KROLL	02/24/2012
SARAH M. LAYTON	02/27/2012
VOLKER OHLINGER	02/23/2012
FRANCOIS-XAVIER ORVEILLON	02/23/2012
STEFAN PESCH	02/27/2012
MICHAEL DENNIS PIONTKOWSKI	02/24/2012
MICHAEL B. ROOF	02/24/2012
PHILIP UTLEY	03/08/2012
ERIC MARTIN VAUGHN	02/24/2012
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	BOEHRINGER INGELHEIM VETMEDICA GMBH
<b>Street Address:</b>	173 BINGER STRASSE
<b>City:</b>	INGELHEIM AM RHEIN
<b>State/Country:</b>	GEORGIA
<b>Postal Code:</b>	55216
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15358288
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(678)638-3350
<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>Email:</b>	assignment.ip@merial.com
<b>Correspondent Name:</b>	DR. JUDY JARECKI-BLACK, ESQ.
<b>Address Line 1:</b>	3239 SATELLITE BLVD.
<b>Address Line 4:</b>	DULUTH, GEORGIA 30096
<b>ATTORNEY DOCKET NUMBER:</b>	10-0137-US-4
<b>NAME OF SUBMITTER:</b>	TIKI CANTRELL

<b>SIGNATURE:</b>	/TIKI CANTRELL/
<b>DATE SIGNED:</b>	10/26/2018
<b>Total Attachments: 30</b> source=eAssignment#page1.tif source=eAssignment#page2.tif source=eAssignment#page3.tif source=eAssignment#page4.tif source=eAssignment#page5.tif source=eAssignment#page6.tif source=eAssignment#page7.tif source=eAssignment#page8.tif source=eAssignment#page9.tif source=eAssignment#page10.tif source=eAssignment#page11.tif source=eAssignment#page12.tif source=eAssignment#page13.tif source=eAssignment#page14.tif source=eAssignment#page15.tif source=eAssignment#page16.tif source=eAssignment#page17.tif source=eAssignment#page18.tif source=eAssignment#page19.tif source=eAssignment#page20.tif source=eAssignment#page21.tif source=eAssignment#page22.tif source=eAssignment#page23.tif source=eAssignment#page24.tif source=eAssignment#page25.tif source=eAssignment#page26.tif source=eAssignment#page27.tif source=eAssignment#page28.tif source=eAssignment#page29.tif source=eAssignment#page30.tif	

## ASSIGNMENT

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

Application Authority Type	Inventor
Primary Citizenship Country	DE
Status	Full Capacity
Given Name	Kim
Family Name	BURGARD
City of Residence	Wadgassen
Country of Residence	DE
Mailing Address 1	Boehringer Ingelheim GmbH
	Corporate Patents
Mailing Address 2	Binger Strasse 173
City of mailing address	Ingelheim am Rhein
Country of mailing address	Germany
Postal or Zip Code of mailing address	55216
Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Jeremy
Family Name	KROLL
City of Residence	Urbandale
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506
Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Sarah
Middle Name	M.
Family Name	LAYTON
City of Residence	Newton
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506

Application Authority Type  
Primary Citizenship Country  
Status  
Given Name  
Family Name  
City of Residence  
Country of Residence  
Mailing Address 1

Inventor  
DE  
Full Capacity  
Volker  
OHLINGER  
Havixbeck  
DE  
Boehringer Ingelheim GmbH  
Corporate Patents  
Binger Strasse 173  
Ingelheim am Rhein  
Germany  
55216

Mailing Address 2  
City of mailing address  
Country of mailing address  
Postal or Zip Code of mailing address

Inventor  
FR  
Full Capacity  
Francois-Xavier  
ORVEILLON  
Mainz  
DE  
Boehringer Ingelheim GmbH  
Corporate Patents  
Binger Strasse 173  
Ingelheim am Rhein  
Germany  
55216

Application Authority Type  
Primary Citizenship Country  
Status  
Given Name  
Family Name  
City of Residence  
Country of Residence  
Mailing Address 1

Mailing Address 2  
City of mailing address  
Country of mailing address  
Postal or Zip Code of mailing address

Inventor  
DE  
Full Capacity  
Stefan  
PESCH  
Münster  
DE  
Boehringer Ingelheim GmbH  
Corporate Patents  
Binger Strasse 173  
Ingelheim am Rhein  
Germany  
55216

Application Authority Type  
Primary Citizenship Country  
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Given Name  
Family Name  
City of Residence  
Country of Residence  
Mailing Address 1

Mailing Address 2  
City of mailing address  
Country of mailing address  
Postal or Zip Code of mailing address

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Michael
Middle Name	Dennis
Family Name	PIONTKOWSKI
City of Residence	Perry
State or Province of Residence	KS
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Michael
Middle Name	B.
Family Name	ROOF
City of Residence	Ames
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Philip
Family Name	UTLEY
City of Residence	Slater
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	502 8 <sup>th</sup> Avenue
City of mailing address	Slater
State or Province of mailing address	IA
Country of mailing address	US
Postal or Zip Code of mailing address	50244

Application Authority Type	Inventor
Primary Citizenship Country	US

Status	Full Capacity
Given Name	Eric
Middle Name	Martin
Family Name	VAUGHN
City of Residence	Ames
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
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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:

NOVEL EUROPEAN PRRSV STRAIN ("the Application")

which

- was executed by the Assignors on
- was deposited with the United States Patent and Trademark Office on February 14, 2012, and accorded Serial No.: 13/396,298

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

Case No.: 10-0137

to others by the Assignors, and that full right to convey the same as herein expressed is possessed by the Assignors.

SIGNATURE OF APPLICANT	DATE
Kim BURGARD <i>K. Burgard</i>	<i>02/26/2012</i>
Jeremy KROLL	
Sarah M. LAYTON	
Volker OHLINGER	
Francois-Xavier ORVEILLON	
Stefan PESCH	
Michael Dennis PIONTKOWSKI	
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Philip UTLEY	
Eric Martin VAUGHN	

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<b>City of Residence</b>	Wadgassen
<b>Country of Residence</b>	DE
<b>Mailing Address 1</b>	Boehringer Ingelheim GmbH
	Corporate Patents
<b>Mailing Address 2</b>	Binger Strasse 173
<b>City of mailing address</b>	Ingelheim am Rhein
<b>Country of mailing address</b>	Germany
<b>Postal or Zip Code of mailing address</b>	55216
<b>Application Authority Type</b>	Inventor
<b>Primary Citizenship Country</b>	US
<b>Status</b>	Full Capacity
<b>Given Name</b>	Jeremy
<b>Family Name</b>	KROLL
<b>City of Residence</b>	Urbandale
<b>State or Province of Residence</b>	IA
<b>Country of Residence</b>	US
<b>Street of mailing address</b>	2621 North Belt Highway
<b>City of mailing address</b>	St. Joseph
<b>State or Province of mailing address</b>	MO
<b>Country of mailing address</b>	US
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<b>Application Authority Type</b>	Inventor
<b>Primary Citizenship Country</b>	US
<b>Status</b>	Full Capacity
<b>Given Name</b>	Sarah
<b>Middle Name</b>	M.
<b>Family Name</b>	LAYTON
<b>City of Residence</b>	Newton
<b>State or Province of Residence</b>	IA
<b>Country of Residence</b>	US
<b>Street of mailing address</b>	2621 North Belt Highway
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**Mailing Address 1**  
  
**Mailing Address 2**  
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**Country of mailing address**  
**Postal or Zip Code of mailing address**

Inventor  
 DE  
 Full Capacity  
 Volker  
 OHLINGER  
 Havixbeck  
 DE  
 Boehringer Ingelheim GmbH  
 Corporate Patents  
 Binger Strasse 173  
 Ingelheim am Rhein  
 Germany  
 55216

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**Postal or Zip Code of mailing address**

Inventor  
 FR  
 Full Capacity  
 Francois-Xavier  
 ORVEILLON  
 Mainz  
 DE  
 Boehringer Ingelheim GmbH  
 Corporate Patents  
 Binger Strasse 173  
 Ingelheim am Rhein  
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**Postal or Zip Code of mailing address**

Inventor  
 DE  
 Full Capacity  
 Stefan  
 PESCH  
 Munster  
 DE  
 Boehringer Ingelheim GmbH  
 Corporate Patents  
 Binger Strasse 173  
 Ingelheim am Rhein  
 Germany  
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Application Authority Type	Inventor
Primary Citizenship Country	US

<b>Status</b>	Full Capacity
<b>Given Name</b>	Eric
<b>Middle Name</b>	Martin
<b>Family Name</b>	VAUGHN
<b>City of Residence</b>	Ames
<b>State or Province of Residence</b>	IA
<b>Country of Residence</b>	US
<b>Street of mailing address</b>	2621 North Belt Highway
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<b>Country of mailing address</b>	US
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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:

NOVEL EUROPEAN PRRSV STRAIN ("the Application")

which


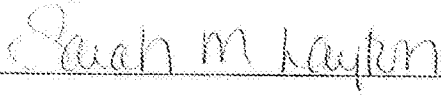
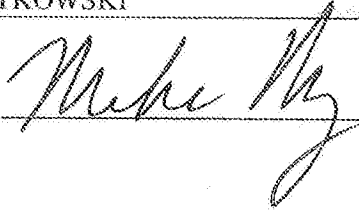
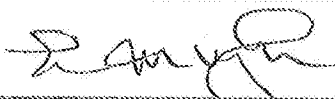
- was executed by the Assignors on
- was deposited with the United States Patent and Trademark Office on February 14, 2012, and accorded Serial No.: 13/396,298

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 APPLICANT	DATE
Kim BURGARD	
Jeremy KROLL 	24 Feb. 2012
Sarah M. LAYTON 	27 Feb 12
Volker OHLINGER	
Francois-Xavier ORVEILLON	
Stefan PESCH	
Michael Dennis PIONTKOWSKI	
Michael B. ROOF 	2/24/12
Philip UTLEY	
Eric Martin VAUGHN 	Feb 24, 2012

## ASSIGNMENT

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

<b>Application Authority Type</b>	Inventor
<b>Primary Citizenship Country</b>	DE
<b>Status</b>	Full Capacity
<b>Given Name</b>	Kim
<b>Family Name</b>	BURGARD
<b>City of Residence</b>	Wadgassen
<b>Country of Residence</b>	DE
<b>Mailing Address 1</b>	Boehringer Ingelheim GmbH Corporate Patents Binger Strasse 173 Ingelheim am Rhein Germany 55216
<b>Mailing Address 2</b>	
<b>City of mailing address</b>	
<b>Country of mailing address</b>	
<b>Postal or Zip Code of mailing address</b>	
<b>Application Authority Type</b>	Inventor
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<b>Country of mailing address</b>	US
<b>Postal or Zip Code of mailing address</b>	64506

Application Authority Type	Inventor
Primary Citizenship Country	DE
Status	Full Capacity
Given Name	Volker
Family Name	OHLINGER
City of Residence	Havixbeck
Country of Residence	DE
Mailing Address 1	Boehringer Ingelheim GmbH Corporate Patents Binger Strasse 173 Ingelheim am Rhein Germany 55216
Mailing Address 2	
City of mailing address	
Country of mailing address	
Postal or Zip Code of mailing address	

Application Authority Type	Inventor
Primary Citizenship Country	FR
Status	Full Capacity
Given Name	Francois-Xavier
Family Name	ORVEILLON
City of Residence	Mainz
Country of Residence	DE
Mailing Address 1	Boehringer Ingelheim GmbH Corporate Patents Binger Strasse 173 Ingelheim am Rhein Germany 55216
Mailing Address 2	
City of mailing address	
Country of mailing address	
Postal or Zip Code of mailing address	

Application Authority Type	Inventor
Primary Citizenship Country	DE
Status	Full Capacity
Given Name	Stefan
Family Name	PESCH
City of Residence	Münster
Country of Residence	DE
Mailing Address 1	Boehringer Ingelheim GmbH Corporate Patents Binger Strasse 173 Ingelheim am Rhein Germany 55216
Mailing Address 2	
City of mailing address	
Country of mailing address	
Postal or Zip Code of mailing address	

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Michael
Middle Name	Dennis
Family Name	PIONTKOWSKI
City of Residence	Perry
State or Province of Residence	KS
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
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Application Authority Type	Inventor
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Status	Full Capacity
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Middle Name	B.
Family Name	ROOF
City of Residence	Ames
State or Province of Residence	IA
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Country of mailing address	US
Postal or Zip Code of mailing address	64506

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Philip
Family Name	UTLEY
City of Residence	Slater
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	502 8 <sup>th</sup> Avenue
City of mailing address	Slater
State or Province of mailing address	IA
Country of mailing address	US
Postal or Zip Code of mailing address	50244

Application Authority Type	Inventor
Primary Citizenship Country	US

Status	Full Capacity
Given Name	Eric
Middle Name	Martin
Family Name	VAUGHN
City of Residence	Ames
State or Province of Residence	IA
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Street of mailing address	2621 North Belt Highway
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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:

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which

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- was deposited with the United States Patent and Trademark Office on February 14, 2012, and accorded Serial No.: 13/396,298

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Family Name	KROLL
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State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506
Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Sarah
Middle Name	M.
Family Name	LAYTON
City of Residence	Newton
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506

Application Authority Type  
Primary Citizenship Country  
Status  
Given Name  
Family Name  
City of Residence  
Country of Residence  
Mailing Address 1  
  
Mailing Address 2  
City of mailing address  
Country of mailing address  
Postal or Zip Code of mailing address

Inventor  
DE  
Full Capacity  
Volker  
OHLINGER  
Havixbeck  
DE  
Boehringer Ingelheim GmbH  
Corporate Patents  
Binger Strasse 173  
Ingelheim am Rhein  
Germany  
55216

Application Authority Type  
Primary Citizenship Country  
Status  
Given Name  
Family Name  
City of Residence  
Country of Residence  
Mailing Address 1  
  
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Inventor  
FR  
Full Capacity  
Francois-Xavier  
ORVELLON  
Mainz  
DE  
Boehringer Ingelheim GmbH  
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Postal or Zip Code of mailing address

Inventor  
DE  
Full Capacity  
Stefan  
PESCH  
Münster  
DE  
Boehringer Ingelheim GmbH  
Corporate Patents  
Binger Strasse 173  
Ingelheim am Rhein  
Germany  
55216

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Michael
Middle Name	Dennis
Family Name	PIONTKOWSKI
City of Residence	Perry
State or Province of Residence	KS
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Michael
Middle Name	B.
Family Name	ROOF
City of Residence	Ames
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Philip
Family Name	UTLEY
City of Residence	Slater
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	502 8 <sup>th</sup> Avenue
City of mailing address	Slater
State or Province of mailing address	IA
Country of mailing address	US
Postal or Zip Code of mailing address	50244

Application Authority Type	Inventor
Primary Citizenship Country	US

Status	Full Capacity
Given Name	Eric
Middle Name	Martin
Family Name	VAUGHN
City of Residence	Ames
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
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NOVEL EUROPEAN PRRSV STRAIN ("the Application")

which

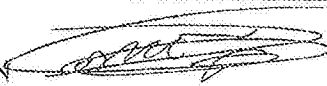
- was executed by the Assignors on
- was deposited with the United States Patent and Trademark Office on February 14, 2012, and accorded Serial No.: 13/396,298

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

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to others by the Assignors, and that full right to convey the same as herein expressed is possessed by the Assignors.

SIGNATURE OF APPLICANT	DATE
Kim BURGARD	
Jeremy KROLL	
Sarah M. LAYTON	
Volker OHLINGER	
Francois-Xavier ORVEILLON 	FEB 23, 2012
Stefan PESCH	
Michael Dennis PIONTKOWSKI	
Michael B. ROOF	
Philip UTLEY	
Eric Martin VAUGHN	

**ASSIGNMENT**

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

<b>Application Authority Type</b>	Inventor
<b>Primary Citizenship Country</b>	DE
<b>Status</b>	Full Capacity
<b>Given Name</b>	Kim
<b>Family Name</b>	BURGARD
<b>City of Residence</b>	Wadgassen
<b>Country of Residence</b>	DE
<b>Mailing Address 1</b>	Boehringer Ingelheim GmbH
	Corporate Patents
<b>Mailing Address 2</b>	Binger Strasse 173
<b>City of mailing address</b>	Ingelheim am Rhein
<b>Country of mailing address</b>	Germany
<b>Postal or Zip Code of mailing address</b>	55216
<b>Application Authority Type</b>	Inventor
<b>Primary Citizenship Country</b>	US
<b>Status</b>	Full Capacity
<b>Given Name</b>	Jeremy
<b>Family Name</b>	KROLL
<b>City of Residence</b>	Urbandale
<b>State or Province of Residence</b>	IA
<b>Country of Residence</b>	US
<b>Street of mailing address</b>	2621 North Belt Highway
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<b>Postal or Zip Code of mailing address</b>	64506
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<b>Primary Citizenship Country</b>	US
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<b>Given Name</b>	Sarah
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Volker  
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Inventor  
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Full Capacity  
Stefan  
PESCH  
Munster  
DE  
Boehringer Ingelheim GmbH  
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Binger Strasse 173  
Ingelheim am Rhein  
Germany  
55216



Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Michael
Middle Name	Dennis
Family Name	PIONTKOWSKI
City of Residence	Perry
State or Province of Residence	KS
Country of Residence	US
Street of mailing address	2621 North Belt Highway
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Application Authority Type	Inventor
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Status	Full Capacity
Given Name	Michael
Middle Name	B.
Family Name	ROOF
City of Residence	Ames
State or Province of Residence	IA
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Postal or Zip Code of mailing address	64506

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Philip
Family Name	UTLEY
City of Residence	Slater
State or Province of Residence	IA
Country of Residence	US
Street of mailing address	502 8 <sup>th</sup> Avenue
City of mailing address	Slater
State or Province of mailing address	IA
Country of mailing address	US
Postal or Zip Code of mailing address	50244

Application Authority Type	Inventor
Primary Citizenship Country	US

Status	Full Capacity
Given Name	Eric
Middle Name	Martin
Family Name	VAUGHN
City of Residence	Ames
State or Province of Residence	IA
Country of Residence	US
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NOVEL EUROPEAN PRRSV STRAIN ("the Application")

which

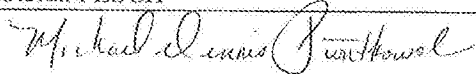
- was executed by the Assignors on
- was deposited with the United States Patent and Trademark Office on February 14, 2012, and accorded Serial No.: 13/396,298

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SIGNATURE OF APPLICANT	DATE
Kim BURGARD	
Jeremy KROLL	
Sarah M. LAYTON	
Volker OHLINGER	
Francois-Xavier ORVEILLON	
Stefan PESCH	
 Michael Dennis PIONTKOWSKI	24 Feb 2012
Michael B. ROOF	
Philip UTLEY	
Eric Martin VAUGHN	

**ASSIGNMENT**

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

<b>Application Authority Type</b>	Inventor
<b>Primary Citizenship Country</b>	DE
<b>Status</b>	Full Capacity
<b>Given Name</b>	Kim
<b>Family Name</b>	BURGARD
<b>City of Residence</b>	Wadgassen
<b>Country of Residence</b>	DE
<b>Mailing Address 1</b>	Boehringer Ingelheim GmbH
	Corporate Patents
<b>Mailing Address 2</b>	Binger Strasse 173
<b>City of mailing address</b>	Ingelheim am Rhein
<b>Country of mailing address</b>	Germany
<b>Postal or Zip Code of mailing address</b>	55216

<b>Application Authority Type</b>	Inventor
<b>Primary Citizenship Country</b>	US
<b>Status</b>	Full Capacity
<b>Given Name</b>	Jeremy
<b>Family Name</b>	KROLL
<b>City of Residence</b>	Urbandale
<b>State or Province of Residence</b>	IA
<b>Country of Residence</b>	US
<b>Street of mailing address</b>	2621 North Belt Highway
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<b>Postal or Zip Code of mailing address</b>	64506

<b>Application Authority Type</b>	Inventor
<b>Primary Citizenship Country</b>	US
<b>Status</b>	Full Capacity
<b>Given Name</b>	Sarah
<b>Middle Name</b>	M.
<b>Family Name</b>	LAYTON
<b>City of Residence</b>	Newton
<b>State or Province of Residence</b>	IA
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<b>Postal or Zip Code of mailing address</b>	64506

Application Authority Type	Inventor
Primary Citizenship Country	DE
Status	Full Capacity
Given Name	Volker
Family Name	OHLINGER
City of Residence	Havixbeck
Country of Residence	DE
Mailing Address 1	Boehringer Ingelheim GmbH Corporate Patents Binger Strasse 173 Ingelheim am Rhein Germany 55216
Mailing Address 2	
City of mailing address	
Country of mailing address	
Postal or Zip Code of mailing address	
Application Authority Type	Inventor
Primary Citizenship Country	FR
Status	Full Capacity
Given Name	Francois-Xavier
Family Name	ORVEILLON
City of Residence	Mainz
Country of Residence	DE
Mailing Address 1	Boehringer Ingelheim GmbH Corporate Patents Binger Strasse 173 Ingelheim am Rhein Germany 55216
Mailing Address 2	
City of mailing address	
Country of mailing address	
Postal or Zip Code of mailing address	
Application Authority Type	Inventor
Primary Citizenship Country	DE
Status	Full Capacity
Given Name	Stefan
Family Name	PESCH
City of Residence	Munster
Country of Residence	DE
Mailing Address 1	Boehringer Ingelheim GmbH Corporate Patents Binger Strasse 173 Ingelheim am Rhein Germany 55216
Mailing Address 2	
City of mailing address	
Country of mailing address	
Postal or Zip Code of mailing address	

Application Authority Type	Inventor
Primary Citizenship Country	US
Status	Full Capacity
Given Name	Michael
Middle Name	Dennis
Family Name	PIONTKOWSKI
City of Residence	Perry
State or Province of Residence	KS
Country of Residence	US
Street of mailing address	2621 North Belt Highway
City of mailing address	St. Joseph
State or Province of mailing address	MO
Country of mailing address	US
Postal or Zip Code of mailing address	64506

Application Authority Type	Inventor
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Status	Full Capacity
Given Name	Michael
Middle Name	B.
Family Name	ROOF
City of Residence	Ames
State or Province of Residence	IA
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Application Authority Type	Inventor
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Given Name	Philip
Family Name	UTLEY
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State or Province of Residence	IA
Country of Residence	US
Street of mailing address	502 8 <sup>th</sup> Avenue
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State or Province of mailing address	IA
Country of mailing address	US
Postal or Zip Code of mailing address	50244

Application Authority Type	Inventor
Primary Citizenship Country	US

Status	Full Capacity
Given Name	Eric
Middle Name	Martin
Family Name	VAUGHN
City of Residence	Ames
State or Province of Residence	IA
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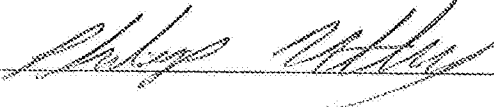
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Stefan PESCH	
Michael Dennis PIONTKOWSKI	
Michael B. ROOF	
Philip UTLEY 	3/8/2012
Eric Martin VAUGHN	