

# PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
<b>CONVEYING PARTY DATA</b>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th style="width: 30%;">Execution Date</th> </tr> </thead> <tbody> <tr> <td>Joachim Frey</td> <td>06/11/2002</td> </tr> <tr> <td>Katja Stuber</td> <td>06/11/2002</td> </tr> <tr> <td>Julian C. Thornton</td> <td>09/03/2002</td> </tr> <tr> <td>Michael A. Kuzyk</td> <td>09/03/2002</td> </tr> <tr> <td>Jan Burian</td> <td>09/03/2002</td> </tr> </tbody> </table>		Name	Execution Date	Joachim Frey	06/11/2002	Katja Stuber	06/11/2002	Julian C. Thornton	09/03/2002	Michael A. Kuzyk	09/03/2002	Jan Burian	09/03/2002
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<b>RECEIVING PARTY DATA</b>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Name:</td> <td>Universitat Bern</td> </tr> <tr> <td>Street Address:</td> <td>Hochschulstrasse 4</td> </tr> <tr> <td>City:</td> <td>Bern</td> </tr> <tr> <td>State/Country:</td> <td>SWITZERLAND</td> </tr> <tr> <td>Postal Code:</td> <td>CH-3012</td> </tr> </table>		Name:	Universitat Bern	Street Address:	Hochschulstrasse 4	City:	Bern	State/Country:	SWITZERLAND	Postal Code:	CH-3012		
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<b>CORRESPONDENCE DATA</b>													
<p>Fax Number: (336)387-1601  <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 336-387-1601          Email: todd.sladek@novartis.com          Correspondent Name: Todd Sladek          Address Line 1: 3200 Northline Ave., Ste. 300          Address Line 2: Novartis Animal Health US, Inc.          Address Line 4: Greenboro, NORTH CAROLINA 27408</p>													
ATTORNEY DOCKET NUMBER:	PAT050095-US-CNT												
NAME OF SUBMITTER:	Todd Sladek												

CH \$40.00 7232569

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**PATENT**  
**REEL: 024879 FRAME: 0707**

Total Attachments: 6

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# NOTARIAL CERTIFICATE

PROVINCE OF BRITISH COLUMBIA

TO WIT

I, Ted B. Urbanek, a Notary Public for the Province of British Columbia, by Royal authority duly appointed, residing at the City of Vancouver, in the said Province, do certify that the paper hereto annexed is a true copy of a document produced and shown to me and purporting to be an assignment of certain inventions and improvements described and claimed in PCT International Patent Application PCT/CA01/01589; the said paper annexed having been compared by me with the said assignment, an act whereof being requested I have granted my notarial form and seal of office to serve and avail as occasion shall or may require.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my  
notarial seal this 14th day of May, 2003 at the City of Vancouver, British Columbia,  
Canada.

**A Notary Public in and for the  
Province of British Columbia  
My commission is non-expiring.**

Y:\MIC01\2315 NO\malaria certificate 030514.wpd

**TED B. URBANEK**  
Barrister & Solicitor  
Suite 830, Oceanic Plaza  
1066 West Hastings Street  
Vancouver, B.C. V6E 3X1

## ASSIGNMENT

WHEREAS WE, Joachim Frey, Katja Stuber, Julian C. Thornton, Michael A. Kuzyk, and Jan Burian, (hereinafter collectively referred to as the "Assignors"), whose full post office addresses are respectively: Schreinerweg 9, CH-3012, Bern, Switzerland; Kappelisackerstrasse 115, CH-3063 Ittigen, Switzerland; 1219 Oscar Street, Victoria, B.C. V8V 2X6, Canada; #303 1535 Jubilee Avenue, Victoria, B.C. V8R 4N4, Canada; and #80 1732 Newton Street, Victoria, B.C. V8R 2R2, Canada, are the inventors of certain inventions or improvements described and claimed in PCT International Patent Application No. PCT/CA01/01589 filed 15 November 2001 and entitled **NOVEL TYPE III SECRETION PATHWAY IN AEROMONAS SALMONICIDA, AND USES THEREFOR**;

AND WHEREAS, Universität Bern (hereinafter called the "Assignee") whose full post office address is Hochschulstrasse 4, CH-3012 Bern, Switzerland, is desirous of acquiring the entire right, title and interest in and to the said inventions or improvements, and in and to the said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries;

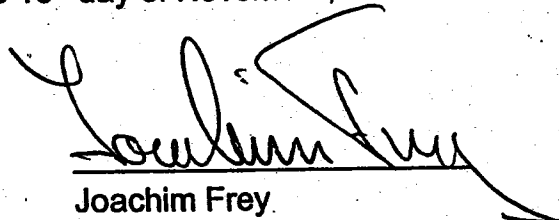
NOW THEREFORE, in consideration of the sum of TEN DOLLARS (\$10.00) paid herewith to the Assignors, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, WE, the Assignors, do hereby, both jointly and severally, sell, assign, transfer and set over to the Assignee the entire right, title and interest in and to the said inventions or improvements and said application, and any and all continuations, divisions, renewals of or substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof, and any reissue or reissues of said Letters Patent; and WE assign to and authorize the Assignee to file in our names applications for Letters Patent for said inventions or improvements in all countries, and to claim any right of priority therefor, the same to be held and enjoyed by the Assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by us, had this assignment, sale and transfer not been made;

AND WE, the Assignors, hereby covenant that the WE have full right to convey the entire interest herein assigned, and that WE have not executed and will not execute any agreement in conflict herewith, and WE further covenant and agree that WE will, each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said inventions or improvements, said application and said Letters Patent, in the Assignee, its successors, assigns, nominees or

legal representatives, and WE agree to communicate to the Assignee, or its nominees, all known facts respecting said inventions or improvements, said applications and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid the Assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit, proper patent protection for said inventions or improvements in any and all countries, all at the expense, however, of the Assignee or its successors, assigns, nominees or legal representatives;

AND WE, the Assignors, hereby authorize and request the Commissioner of Patents of Canada and any official of any country or countries foreign to Canada whose duty it is to issue patents on applications as aforesaid, to issue to the Assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said inventions or improvements, which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this Assignment.



EXECUTED at Bern, Switzerland, as of the 15<sup>th</sup> day of November, 2001.

  
Joachim Frey

NOTARIAL CERTIFICATE

On this 11<sup>th</sup> day of June, 2002, before me personally appeared Joachim Frey, known to me or proven to me on the basis of satisfactory evidence to be one of the individuals who executed the foregoing instrument, and who acknowledged to me that he executed the same of his own free will and for the purpose therein set forth.



  
Notary Public 

Reg. B Nr. 971

EXECUTED at Bern, Switzerland, as of the 15<sup>th</sup> day of November, 2001.

Katja  
Katja Stuber

NOTARIAL CERTIFICATE

On this 11<sup>th</sup> day of June, 2002, before me personally appeared Katya Stuber, known to me or proven to me on the basis of satisfactory evidence to be one of the individuals who executed the foregoing instrument, and who acknowledged to me that he executed the same of his own free will and for the purpose therein set forth.



Reg. B Nr. 972

[Signature]  
Notary Public

EXECUTED at Victoria, British Columbia, Canada, as of the 15<sup>th</sup> day of November, 2001.

[Signature]  
Julian C. Thornton

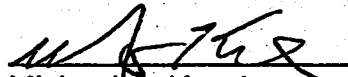
NOTARIAL CERTIFICATE

On this 3 day of September, 2002, before me personally appeared Julian C. Thornton, known to me or proven to me on the basis of satisfactory evidence to be one of the individuals who executed the foregoing instrument, and who acknowledged to me that he executed the same of his own free will and for the purpose therein set forth.

**Michael D. Powell**  
Barrister & Solicitor  
290 - 1675 Douglas Street  
Victoria BC  
Canada V8W 2G5


[Signature]  
Notary Public in and for the Province  
of British Columbia, Canada.  
My Commission is non-expiring.

EXECUTED at Victoria, British Columbia, Canada, as of the 15<sup>th</sup> day of November, 2001.


  
Michael A. Kuzyk

NOTARIAL CERTIFICATE

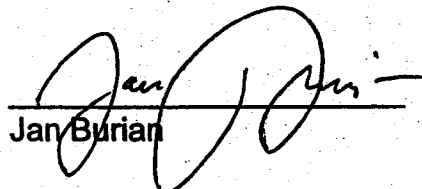
On this 3 day of September, 2002, before me personally appeared Michael A. Kuzyk, known to me or proven to me on the basis of satisfactory evidence to be one of the individuals who executed the foregoing instrument, and who acknowledged to me that he executed the same of his own free will and for the purpose therein set forth.



**Michael D. Powell**  
*Barrister & Solicitor*  
290 - 1675 Douglas Street  
Victoria BC  
Canada V8W 2G5

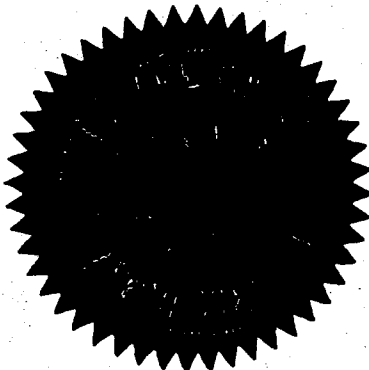
  
Notary Public in and for the Province  
of British Columbia, Canada.  
My Commission is non-expiring.

EXECUTED at Victoria, British Columbia, Canada, as of the 15<sup>th</sup> day of November, 2001.


  
Jan Burian

NOTARIAL CERTIFICATE

On this 3 day of September, 2002, before me personally appeared Jan Burian, known to me or proven to me on the basis of satisfactory evidence to be one of the individuals who executed the foregoing instrument, and who acknowledged to me that he executed the same of his own free will and for the purpose therein set forth.



**Michael D. Powell**  
*Barrister & Solicitor*  
290 - 1675 Douglas Street  
Victoria BC  
Canada V8W 2G5

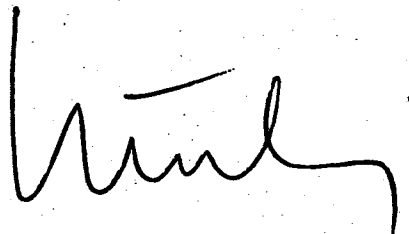
  
Notary Public in and for the Province  
of British Columbia, Canada.  
My Commission is non-expiring.

**STATEMENT OF ACCEPTANCE**

The foregoing Assignment is hereby accepted:

**UNIVERSITÄT BERN**

By: Mr. Elias Köchli



Title: Director of Administration

Date: 9/21/2002

Y:\MIC01\2315 WO\Assignment PCT 2315 Inv to Univ Bern 020424.wpd