

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Philip A. Beachy	07/20/2001
James K. Chen	03/06/2008
Anssi Jussi Nikolai Taipale	03/14/2008
RECEIVING PARTY DATA	
Name:	Johns Hopkins University School of Medicine
Street Address:	720 Rutland Avenue
City:	Baltimore
State/Country:	MARYLAND
Postal Code:	21218
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	13176297
CORRESPONDENCE DATA	
Fax Number:	(617)235-9492
Phone:	212-596-9000
Email:	tracy.chu@ropesgray.com
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>	
Correspondent Name:	Ropes & Gray LLP
Address Line 1:	1211 Avenue of the Americas
Address Line 4:	New York, NEW YORK 10036
ATTORNEY DOCKET NUMBER:	JHUC-P04-016
NAME OF SUBMITTER:	Tracy W. Chu

Total Attachments: 8
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ASSIGNMENT

WHEREAS, each of the Undersigned has developed certain inventions described in U.S. patent application titled:

**REGULATORS OF THE HEDGEHOG PATHWAY, COMPOSITIONS AND USES
RELATED THERETO**

filed herewith; and has full right to convey their entire interest, both legal and equitable, in and to said inventions free from all prior assignments, agreements, licenses, mortgages, security interests, or other encumbrances whatsoever; and

WHEREAS, **JOHN HOPKINS UNIVERSITY SCHOOL OF MEDICINE** ("ASSIGNEE"), of Baltimore, a corporation of the State of Maryland, is desirous of acquiring the entire right, title and interest in and to said invention or inventions and any and all patents to be obtained therefor;

NOW, THEREFORE, in consideration of the sum of One Dollars (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by each of the Undersigned, each of the Undersigned hereby sells, assigns and transfers unto said ASSIGNEE, its successors and assigns, their entire right, title and interest in and to said invention or inventions, as described in the aforesaid application and all applications resulting therefrom, including any and all divisions, continuations, continuations in part, substitute applications, and reissues or extensions thereof; and all resulting patents.

AND each of the Undersigned hereby authorizes and requests the issuing authority to issue any and all patents on said application or applications to said ASSIGNEE or its successors and assigns; the Undersigned agree(s) that the attorney of record in said application shall hereinafter act on behalf of said ASSIGNEE.

AND, each of the Undersigned further agrees, without any further payment or compensation by said ASSIGNEE or its successors and assigns, to communicate to said ASSIGNEE, its representatives or agents or its successors and assigns, any facts relating to said invention or inventions including evidence for interference purposes or for other legal proceedings whenever requested; to testify in any interference or other legal proceedings, whenever requested; to execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective; and to generally do everything possible to aid said ASSIGNEE, its successors or assigns and nominees to secure, obtain and enforce proper patent protection for said invention or inventions in this or any foreign country.

Each of the undersigned hereby authorizes Ropes & Gray, of One International Place, Boston, MA 02110, to insert hereon any further identification information necessary or desirable for recordation of this document.

<u>Inventor(s)</u>	<u>Date Signed</u>	<u>Witness(es)</u>
1. <u>Philip Beachy</u>	<u>7/20/01</u>	<u>KABear</u>

Name: Philip A. Beachy
for himself and as agent for the Howard Hughes Medical Institute

ASSIGNMENT

WHEREAS, we, Philip A. Beachy, James K. Chen, and Anssi Jussi Nikolai Taipale, have invented a certain improvement in **REGULATORS OF THE HEDGEHOG PATHWAY, COMPOSITIONS AND USES RELATED THERETO** described in an application for Letters Patent of the United States, the specification of which:

[X] was filed on January 23, 2006 as Application No. 11/338503.

WHEREAS, **JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE**, (hereinafter "ASSIGNEE"), a university having principal offices at 720 Rutland Avenue, Baltimore, MD 21218-5210 desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon, and any reissue, continuation, divisional and foreign counterparts thereof and including the right to claim priority under any applicable statute, treaty or convention based on said application; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent, all choses in action pertaining to the applications or Letters Patent including the right to sue for and collect damages and other recoveries for past infringement thereof, all rights to initiate proceedings before government and administrative bodies, and all files, records and other materials arising from the prosecution, exploitation, or defense of rights and registrations pertaining to the applications or Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its

successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

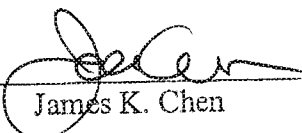
AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

Inventor Previously Recorded Date: _____
Philip A. Beachy

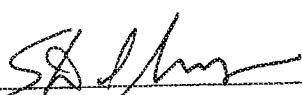
Address _____

Witness _____ Date: _____

Address _____

Inventor  Date: 3/6/08
James K. Chen

Address ~~1234 S. Charles Street, 1st Floor~~ 2040 W. Middlefield Rd., Unit 16
Baltimore, Maryland 21230 Mountain View, CA 94043
JKC
3/6/08

Witness  Date: 3/6/08

Address 269 CAMPUS DR
STANFORD, CA 94305

ASSIGNMENT

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NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon, and any reissue, continuation, divisional and foreign counterparts thereof and including the right to claim priority under any applicable statute, treaty or convention based on said application; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent, all choses in action pertaining to the applications or Letters Patent including the right to sue for and collect damages and other recoveries for past infringement thereof, all rights to initiate proceedings before government and administrative bodies, and all files, records and other materials arising from the prosecution, exploitation, or defense of rights and registrations pertaining to the applications or Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its

successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

Inventor Previously Recorded Date: _____
Philip A. Beachy

Address _____

Witness _____ Date: _____

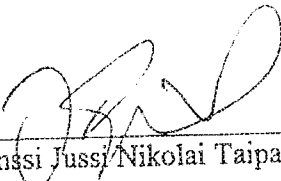
Address _____

Inventor _____ Date: _____
James K. Chen

Address 1234 S. Charles Street, 1st Floor
Baltimore, Maryland 21230

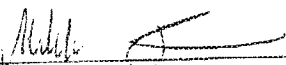
Witness _____ Date: _____

Address _____

Inventor 
Anssi Jussi Nikolai Taipale

Date: 3/14/08

Address Nuottakunnantie 7B8, Fin-02230 Espoo
7b8, Fin-02230 Espoo, Finland

Witness  MIKKO TURUNEN Date: 3/14/08

Address PÄÄSKYLÄN RINKE 10B OUSUO HELSINKI
FINLAND, EU