

12-02-1999



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*MWD  
11-24-99*

**RECORDATION FORM COVER SHEET  
PATENTS ONLY**

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

**Submission Type**

New

Resubmission (Non-Recordation)  
Document ID#

Correction of PTO Error  
Reel #  Frame #

Corrective Document  
Reel #  Frame #

**Conveyance Type**

Assignment  Security Agreement

License  Change of Name

Merger  Other

**U.S. Government**  
(For Use ONLY by U.S. Government Agencies)

Departmental File  Secret File

**Conveying Party(ies)**

Mark if additional names of conveying parties attached

Name (line 1)  Execution Date   
Month Day Year

Name (line 2)

**Second Party**

Name (line 1)

Name (line 2)

Execution Date   
Month Day Year

**Receiving Party**

Mark if additional names of receiving parties attached

If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)

Name (line 1)

Name (line 2)

Address (line 1)

Address (line 2)

Address (line 3)     
City State/Country Zip Code

**Domestic Representative Name and Address**

Enter for the first Receiving Party only.

Name

Address (line 1)

Address (line 2)

Address (line 3)

Address (line 4)

**FOR OFFICE USE ONLY**

12/02/1999 TTON11 00000004 5695993  
01 FC:581 / 160.00 OP

Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB Information Collection Budget Package 0651-0027, Patent and Trademark Assignment Practice. DO NOT SEND REQUESTS TO RECORD ASSIGNMENT DOCUMENTS TO THIS ADDRESS.

Mail documents to be recorded with required cover sheet(s) information to: OMRF 152 20487/142/211/242/253  
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

**PATENT**  
REEL: 010395 FRAME: 0871

**Correspondent Name and Address**

Area Code and Telephone Number

(404) 873-8794

Name Patrea L. Pabst, Esq.

Address (line 1) Arnall Golden & Gregory, LLP

Address (line 2) 2800 One Atlantic Center

Address (line 3) 1201 West Peachtree Street

Address (line 4) Atlanta, GA 30309-3450

**Pages**

Enter the total number of pages of the attached conveyance document including any attachments.

# 15

**Application Number(s) or Patent Number(s)**

Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

**Patent Application Number(s)**

**Patent Number(s)**

09182616  
09378261

5695993  
5852171

If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor.

Month Day Year

**Patent Cooperation Treaty (PCT)**

Enter PCT application number only if a U.S. Application Number has not been assigned.

PCT PCT PCT  
PCT PCT PCT

**Number of Properties**

Enter the total number of properties involved.

# 4

**Fee Amount**

Fee Amount for Properties Listed (37 CFR 3.41): \$ 160.00

Method of Payment:  
Deposit Account

Enclosed  Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number: # 01-2507

Authorization to charge additional fees: Yes  No

**Statement and Signature**

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

Patrea L. Pabst

11/15/99

Name of Person Signing  
Reg. No. 31,284

Signature

Date

## ASSIGNMENT

I, Charles T. Esmon of 5800 North Stonewall, Oklahoma City, Oklahoma 73111, on behalf of and as Agent for the Howard Hughes Medical Institute, 4000 Jones Bridge Road, Chevy Chase, Maryland 20815, in consideration of Ten Dollars and other valuable consideration paid to me by Oklahoma Medical Research Foundation, a corporation of the State of Oklahoma having its principal place of business at 825 N.E. 13th Street, Oklahoma City, Oklahoma 73104, the receipt of which is hereby acknowledged, do hereby sell, assign and transfer unto said Oklahoma Medical Research Foundation, its successors and assigns, the entire interest for the United States of America and its territories and all foreign countries and jurisdictions including all rights of priority under the International Convention for the Protection of Industrial Property in a certain invention or improvement in "*CLONING AND REGULATION OF AN ENDOTHELIAL CELL PROTEIN C/ACTIVATED PROTEIN C RECEPTOR*" by Kenji Fukudome and Charles T. Esmon, described in (1) U.S. Application Serial No. 08/289,699 filed in the United States Patent and Trademark Office on August 12, 1994, now U.S. Patent No. 5,695,993 granted December 9, 1997; (2) U.S. Application Serial No. 08/878,283 filed in the United States Patent and Trademark Office on June 18, 1997, now U.S. Patent No. 5,852,171 granted December 22, 1998, which claims priority to U.S. Application Serial No. 08/289,699 filed in the United States Patent and Trademark Office on August 12, 1994, now U.S. Patent No. 5,695,993 granted December 9, 1997; (3) U.S. Application Serial No. 09/182,616 filed in the United States Patent and Trademark Office on October 29, 1998, which claims priority to U.S. Application Serial No. 08/878,283 filed in the United States Patent and Trademark Office on June 18, 1997, now U.S. Patent No. 5,852,171 granted December 22, 1998, which claims priority to U.S. Application Serial No. 08/289,699 filed in the United States Patent and Trademark Office on August 12, 1994, now U.S. Patent No. 5,695,993 granted December 9, 1997; and (4) U. S. Serial No. 09/378,261 filed in the United States Patent and Trademark Office on August 20, 1999, which claims priority to U.S. Application Serial No. 09/182, 616 filed in the United States Patent and Trademark Office on October 29, 1998, which claims priority to U.S. Application Serial No. 08/878,283 filed in the United States Patent and Trademark Office on June 18, 1997, now U.S. Patent No. 5,852,171 granted December 22, 1998, which claims priority to U.S. Application Serial No. 08/289,699 filed in the United States Patent and Trademark Office on August 12, 1994, now U.S. Patent No. 5,695,993 granted December 9, 1997, and in all Letters Patent of the United States of America and its territories and all foreign countries and jurisdictions which may or shall be granted on said invention, or any parts thereof, or on said application, or any provisional, divisional, continuation, continuation-in-part, renewals, reissue or other applications based in whole or in part thereon. And I agree, for myself and my executor and administrator, with said corporation and its successors and assigns but at its or their expense or charges, hereafter to execute all applications, amended specifications, deeds or other instruments, and to do all acts necessary or proper to secure the grant of Letters Patent in the United States and in all other countries to said corporation, with specifications and claims in such form as shall be approved by the counsel of said corporation and to vest and confirm in said corporation, its successors and assigns, the legal title to all such patents.

**"Cloning and Regulation of an Endothelial Cell Protein C/Activated Protein C. Receptor"**

**By: Kenji Fukudome and Charles T. Esmon**


**U.S.S.N.: 09/182,616**

**Filed: August 20, 1999**

**ASSIGNMENT**

**And I do hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said corporation, its successors and assigns.**

**WITNESS my hand and seal this 27th day of September, 1999.**

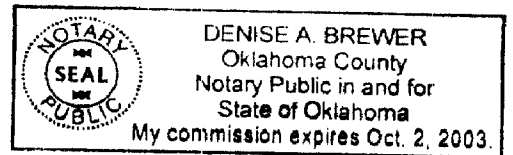
  
\_\_\_\_\_  
**Charles T. Esmon, on behalf of and as Agent for  
Howard Hughes Medical Institute**

**State of Oklahoma** )  
**County of OKLAHOMA** )**SS.**

**Then personally appeared the above named Charles T. Esmon and acknowledged the foregoing instrument to be his free act and deed, before me, this 27th day of SEPTEMBER, 1999.**

  
\_\_\_\_\_  
**Notary Public**

**My Commission expires: OCTOBER 2, 2003**



APPOINTMENT OF INVESTIGATOR AS AGENT

Appointment by the Howard Hughes Medical Institute (the "Institute") of Dr. Charles T. Esmon, an investigator employed by the Institute, as its agent for the purpose of assigning certain rights to the Oklahoma Medical Research Foundation (the "Foundation").

WHEREAS, the Institute and the Foundation collaborate in the active conduct of medical research pursuant to a Collaboration Agreement between them dated as of July 1, 1988 (the "Collaboration Agreement");

WHEREAS, pursuant to the Collaboration Agreement, the Institute has agreed to assign to the Foundation the Institute's rights with respect to inventions, discoveries, improvements, and other intellectual property, whether patentable or copyrightable (each a "subject property"), conceived or reduced to practice in the course of the research program conducted under the Collaboration Agreement by employees of the Institute;

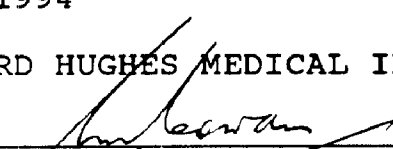
WHEREAS, research conducted pursuant to the Collaboration Agreement by Dr. Esmon while employed by the Institute at the Foundation has resulted in the invention of a certain subject property entitled "The Structure and Properties of a New Member of the Protein C Pathway and its Application to Inflammatory Disease," with respect to which the Foundation seeks to file a patent application (the "Invention");

WHEREAS, the Institute wishes Dr. Esmon to act as its agent for the purpose of assigning the Institute's rights in the invention to the Foundation; and

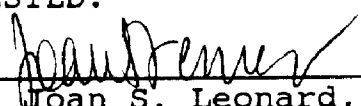
NOW, THEREFORE, the Institute hereby appoints Dr. Esmon as its agent for the purpose of assigning the Institute's rights in the Invention to the Foundation in accordance with and subject to the conditions of the Collaboration Agreement.

Executed 6/15, 1994

HOWARD HUGHES MEDICAL INSTITUTE

  
By: W. Maxwell Cowan  
Vice President and Chief  
Scientific Officer

ATTESTED:

  
By: Joan S. Leonard, Esq.  
Associate General Counsel  
and Assistant Secretary

PATENT

REEL: 010395 FRAME: 0875



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

DATE: 11/09/94

TO:

N08B

KILPATRICK & CODY  
PATREA L. PABST, ESQ.  
1100 PEACHTREE STREET, SUITE 2800  
ATLANTA, GEORGIA 30309

**UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT**

RECEIVED  
DEC 02 1994

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT BRANCH OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE U.S. PATENT AND TRADEMARK OFFICE ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT ASSIGNMENT PROCESSING SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT BRANCH, NORTH TOWER BUILDING, SUITE 10C35, WASHINGTON, D.C. 20231

ASSIGNOR: FUKUDOME, KENJI DOC DATE: 09/28/94

ASSIGNOR: ESMON, CHARLES T. DOC DATE: 09/28/94

RECORDATION DATE: 10/17/94 NUMBER OF PAGES 007 REEL/FRAME 7167/0985

DIGEST : ASSIGNMENT OF ASSIGNORS INTEREST

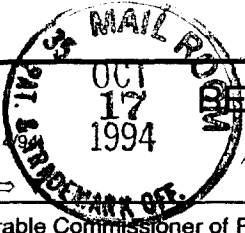
ASSIGNEE:  
OKLAHOMA MEDICAL RESEARCH FOUNDATION  
825 N.E. 13TH STREET  
OKLAHOMA CITY, OKLAHOMA 73104

SERIAL NUMBER 8-289699 FILING DATE 08/12/94  
PATENT NUMBER ISSUE DATE 00/00/00

*Steven P...*  
EXAMINER/PARALEGAL  
ASSIGNMENT BRANCH  
ASSIGNMENT/CERTIFICATION SERVICES DIVISION

Entered Computer 12/5/94  
*[Signature]*

40.00 581 AID



FORM PTO-1595 (Rev. 6-93)

OMB No. 0651-0011 (exp. 10-31-94)

# RECORDATION FORM COVER SHEET PATENTS ONLY

U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

Tab settings □ □ □

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):  
**Kenji Fukudome**  
**Charles T. Esmon**

Additional name(s) of conveying party(ies) attached?  Yes  No

2. Name and address of receiving party(ies)

Name: Oklahoma Medical Research  
Foundation

Internal Address: \_\_\_\_\_

Street Address: 825 N.E. 13th Street

City: Oklahoma City State: OK ZIP: 73104

Additional name(s) & address(es) attached?  Yes  No

3. Nature of conveyance:

Assignment 19  Merger

Security Agreement  Change of Name

Other \_\_\_\_\_

Execution Date: September 28, 1994 both

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s) <u>08/289,699</u>	B. Patent No.(s)
---	------------------

Additional numbers attached?  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Patrea L. Pabst, Esq.

Internal Address: Kilpatrick & Cody  
Suite 2800

Street Address: 1100 Peachtree Street

City: Atlanta State: GA ZIP: 30309

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41).....\$ 40.00

Enclosed

Authorized to be charged to deposit account  
 any additional fee or credit overpayment

8. Deposit account number:  
11-0855

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

100 MG 10/27/94 08289699 1 581 40.00 OK

9. Statement and signature:  
*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Patrea L. Pabst [Signature] October 12, 1994  
 Name of Person Signing Signature Date

Total number of pages including cover sheet, attachments, and document: 8

ASSIGNMENT

We, Kenji Fukudome of 13125 West Park Place, Oklahoma City, Oklahoma 73142, and Charles T. Esmon of 5800 North Stonewall, Oklahoma City, Oklahoma 73111, in consideration of Five Dollars and other valuable consideration paid to us by Oklahoma Medical Research Foundation, a corporation of Oklahoma having its principal place of business at 825 N.E. 13th Street, Oklahoma City, Oklahoma 73104, the receipt of which is hereby acknowledged, do hereby sell, assign and transfer unto said Oklahoma Medical Research Foundation, its successors and assigns, the entire interest for the United States of America and its territories and all foreign countries and jurisdictions, including all rights of priority under the International Convention for the Protection of Industrial Property in a certain invention or improvement in "Cloning and Regulation of an Endothelial Cell Protein C/Activated Protein C Receptor" described in U.S. Serial No. 08/289,699 filed August 12, 1994, in the United States Patent and Trademark Office, and in all Letters Patent of the United States and its territories and all foreign countries and jurisdictions which may or shall be granted on said invention, or any parts thereof, or on said application, or any divisional, continuation, continuation-in-part, renewals, reissue or other applications based in whole or in part thereon. And we agree, for ourselves and our executors and administrators, with said corporation and its successors and assigns but at its or their expense or charges, hereafter to execute all applications, amended specifications, deeds or other instruments, and to do all acts necessary or proper to secure the grant of Letters Patent in the United States and in all other countries to said corporation, with specifications and claims in such form as shall be approved by the counsel of said corporation and to vest and confirm in said corporation, its successors and assigns, the legal title to all such patents.

And we do hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue such Letters Patent as shall be granted upon said application or

REEL 7167 FRAME 986

PATENT

REEL: 010395 FRAME: 0878



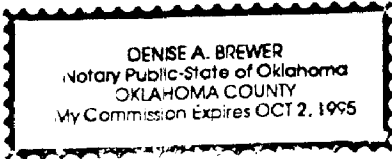
applications based thereon to said corporation, its successors and assigns.

WITNESS my hand and seal this 16 day of September, 1994.

Kenji Fukudome  
Kenji Fukudome

State of Oklahoma )  
County of OKLAHOMA ) ss.

Then personally appeared the above named Kenji Fukudome and acknowledged the foregoing instrument to be his free act and deed, before me, this 16 day of September, 1994.



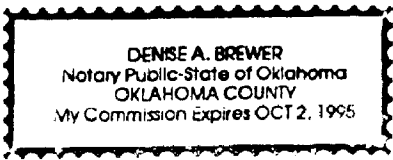
Denise A. Brewer  
Notary Public

WITNESS my hand and seal this 16 day of September, 1994.

Charles T. Esmon  
Charles T. Esmon  
For Myself and as Agent of  
the Howard Hughes Medical Institute

State of Oklahoma )  
County of OKLAHOMA ) ss.

Then personally appeared the above named Charles T. Esmon and acknowledged the foregoing instrument to be his free act and deed, before me, this 16 day of September, 1994.



Denise A. Brewer  
Notary Public

REEL 167 FRAME 987

ASSIGNMENT

Assignment made June 3, 1994 by Charles T. Esmon  
("Inventor") to the Howard Hughes Medical Institute, a Delaware  
not-for-profit corporation (the "Institute").

Recitals

WHEREAS, Inventor is an employee of the Institute and, as a  
condition of his employment, has signed the Agreement appended to  
the Institute's Statement of Policy on Intellectual Property (the  
"Intellectual Property Agreement");

WHEREAS, pursuant to the Intellectual Property Agreement,  
the Inventor has agreed (a) to assign to the Institute all rights  
he may acquire in any invention, discovery, improvement, or other  
intellectual property, whether or not patentable or  
copyrightable, developed directly or indirectly as a result of a  
program of research financed by Institute funds or by funds under  
the control of the Institute (each a "subject property") and (b)  
to execute any agreements that may be desired by the Institute in  
connection with such assignment;

WHEREAS, Inventor has invented The Structure and Properties of a New  
Member of the Protein C Pathway and its Application to Inflammatory Disease  
which is described in an invention disclosure dated June 3, 1994,  
and which may be the subject of a patent application (the  
"Invention"), and the Invention is a subject property; and

WHEREAS, Inventor seeks to make a formal assignment of his  
interest in the Invention to the Institute, and the Institute  
desires the execution of a formal assignment of all of Inventor's  
right, title and interest in the Invention.

NOW, THEREFORE, the parties agree as follows:

1. Assignment. In consideration of the promises contained  
in and the acts performed and to be performed pursuant to the  
Intellectual Property Agreement and of other good and valuable  
consideration, the receipt of which is hereby acknowledged by  
Inventor, the Inventor hereby assigns to the Institute the entire  
right, title, and interest in the Invention, any United States  
patent applications, all corresponding foreign patent  
applications, and any and all patents issued therefrom, all  
divisions and continuations based on any of the foregoing, and  
all claims contained in the United States and foreign  
continuations-in-part applications and patents which are directed  
to the Invention.

2. Cooperation. Inventor agrees to execute upon request  
such further assignments, documents, and other instruments as may  
be necessary or desirable fully and completely to assign the  
Inventor's interests in the Invention to the Institute and to  
assist the Institute in applying for, obtaining, and enforcing

REEL 1 6 7 FRAME 9 8 8

patents, copyrights, or other rights in the United States and in any foreign country with respect to any such Invention.

3. Parties. The terms and provisions of this Assignment shall inure to the benefit of the Institute and its successors and assigns and shall be binding on the Inventor and his heirs and successors.

4. Warranty. The Inventor warrants and represents that he has not entered into any assignment, contract, or understanding in conflict herewith.

Inventor: *Charles Eason*

STATE OF OKLAHOMA  
COUNTY OF OKLAHOMA

§  
§  
§

Then personally appeared before me the above-named *Charles Eason* and acknowledged that he executed the foregoing instrument as his free act and deed this 3 day of *June*, 1994

*Jean Leaver* Notary Public  
JEAN LEAVER (print name)

My Commission expires 07/17/96

S E A L

REEL 167 FRAME 989

ASSIGNMENT

Assignment made June 3, 1994 by Kenji Fukudome ("Inventor") to the Howard Hughes Medical Institute, a Delaware not-for-profit corporation (the "Institute").

Recitals

WHEREAS, Inventor is an employee of the Institute and, as a condition of his employment, has signed the Agreement appended to the Institute's Statement of Policy on Intellectual Property (the "Intellectual Property Agreement");

WHEREAS, pursuant to the Intellectual Property Agreement, the Inventor has agreed (a) to assign to the Institute all rights he may acquire in any invention, discovery, improvement, or other intellectual property, whether or not patentable or copyrightable, developed directly or indirectly as a result of a program of research financed by Institute funds or by funds under the control of the Institute (each a "subject property") and (b) to execute any agreements that may be desired by the Institute in connection with such assignment;

WHEREAS, Inventor has invented The Structure and Properties of a New Member of the Protein C Pathway and its Application to Inflammatory Disease, which is described in an invention disclosure dated June 3, 1994, and which may be the subject of a patent application (the "Invention"), and the Invention is a subject property; and

WHEREAS, Inventor seeks to make a formal assignment of his interest in the Invention to the Institute, and the Institute desires the execution of a formal assignment of all of Inventor's right, title and interest in the Invention.

NOW, THEREFORE, the parties agree as follows:

1. Assignment. In consideration of the promises contained in and the acts performed and to be performed pursuant to the Intellectual Property Agreement and of other good and valuable consideration, the receipt of which is hereby acknowledged by Inventor, the Inventor hereby assigns to the Institute the entire right, title, and interest in the Invention, any United States patent applications, all corresponding foreign patent applications, and any and all patents issued therefrom, all divisions and continuations based on any of the foregoing, and all claims contained in the United States and foreign continuations-in-part applications and patents which are directed to the Invention.

2. Cooperation. Inventor agrees to execute upon request such further assignments, documents, and other instruments as may be necessary or desirable fully and completely to assign the Inventor's interests in the Invention to the Institute and to assist the Institute in applying for, obtaining, and enforcing

REEL 7 1 6 7 FRAME 9 9 0

patents, copyrights, or other rights in the United States and in any foreign country with respect to any such Invention.

3. Parties. The terms and provisions of this Assignment shall inure to the benefit of the Institute and its successors and assigns and shall be binding on the Inventor and his heirs and successors.

4. Warranty. The Inventor warrants and represents that he has not entered into any assignment, contract, or understanding in conflict herewith.

Inventor: Kenneth Tredony

STATE OF OKLAHOMA  
COUNTY OF OKLAHOMA

§  
§  
§

Then personally appeared before me the above-named Kesiji Tubudome and acknowledged that he executed the foregoing instrument as his free act and deed this 3 day of June, 1996.

Jean Leaver Notary Public  
Jean Leaver (print name)

My Commission expires 07/17/1996

S E A L

REEL 167 FRAME 91

OCT 17 94

REMARK