Form PTO-1595

04-28-2000

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U.S. Department of Commerce Patent and Trademark Office

Attorney Docket No.: CASE-03330

101338328 To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. Name and address of receiving party(ies): 1. Name of conveying party(ies) CASE WESTERN RESERVE UNIVERSITY 10900 Euclid Avenue James W. Thomas Cleveland, Ohio 44106-4943 Additional name(s) & address(es) attached? No Additional name(s) of conveying party(ies) a 3. Nature of conveyance: Assignment Execution Date: March 29, 2000 ALLELIC SERIES OF GENOMIC MODIFICATIONS IN CELLS 4. Title of Invention: Application number(s) or patent number(s): Patent No.(s): B. Patent Application No.(s): A. 09/103,846 Additional numbers attached? No Name and address of party to whom correspondence 6. Total number of applications and patents involved: 1 concerning document should be mailed: Total fee(s): 7. Peter G. Carroll MEDLEN & CARROLL, LLP Check(s) in the amount of \$581.00 enclosed 220 Montgomery Street, Suite 2200 (recordation (\$40.00), amendment (\$171.00), San Francisco, California 94104 information disclosure statement (\$240.00) and petition filing fee (\$130.00)). Deposit Account Authorization: 8. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 08-1290. An originally executed duplicate of this transmittal is enclosed for this purpose. DO NOT USE THIS SPACE Statement and Signature: 9. 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. Date: April 18, 2000 Name: Kamrin T. MacKnight 04/26/2000 MSHIFERA 00000072 0910384

Reg. No.: 38,230

Total number of pages including cover sheet, attachments, and document: 3

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> PATENT REEL: 010726 FRAME: 0905

Attorney Docket No.: CASE-03330



ASSIGNMENT

WHEREAS, I, James W. Thomas, hereinafter referred to as "ASSIGNOR", have invented certain new and useful improvements as described and set forth in the below-identified application for United States Letters Patent:

Title of Invention:

ALLELIC SERIES OF GENOMIC MODIFICATIONS IN CELLS

Filing Date:

06/24/98

Serial No.:

09/103,846

WHEREAS, CASE WESTERN RESERVE UNIVERSITY, a non-profit organization, 10900 Euclid Avenue, Cleveland, Ohio 44106-4943, hereinafter referred to as "ASSIGNEE", is desirous of acquiring the entire right, title and interest in said invention and application and in any Letters Patent which may be granted on the same;

NOW THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for and in consideration of the sum of One Dollar (\$1.00) lawful money paid to ASSIGNOR by ASSIGNEE and other good and valuable consideration, receipt of which is hereby acknowledged, ASSIGNOR has sold, assigned and transferred, and by these presents does sell, assign and transfer unto said ASSIGNEE, and ASSIGNEE's successors and assigns, all right, title and interest in and to said invention, said application for United States Letters Patent, and any Letters Patent which may hereafter be granted on the same in the United States and all countries throughout the world including any divisions, renewals, continuations in whole or in part, substitutions, conversions, reissues, prolongations or extensions thereof, said interest to be held and enjoyed by said ASSIGNEE as fully and exclusively as it would have been held and enjoyed by said ASSIGNOR had this assignment and transfer not been made, to the full end and term of any Letters

ASSIGNOR further agrees that ASSIGNOR will, without charge to said ASSIGNEE, but at ASSIGNEE's expense, cooperate with ASSIGNEE in the prosecution of said application and/or applications; execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof; and will perform such other acts as ASSIGNEE lawfully may request, to obtain or maintain Letters Patent for said invention and improvement in any and all countries, and to vest title thereto in said ASSIGNEE, or ASSIGNEE's successors and assigns.

IN TESTIMONY WHEREOF, ASSIGNOR has hereunto signed ASSIGNOR's names to this assignment on the date indicated below.

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STATE OF _____

COUNTY OF Monty we

RECORDED: 04/24/2000

On this 29 day of Mavu, in the year of 2000, before me, the undersigned notary public, personally appeared the above-named ASSIGNOR, known to me (or proved to me on the basis of satisfactory evidence) to be

the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same.

IONEL DINU
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires March 01, 2004

NOTARY PUBLIC

SEAL

PATENT

REEL: 010726 FRAME: 0906