Attorney Docket No. 24299-518CIP

| RECORDATION FO | 7') ') 1 2 1 2 2 2 2 2 2 2 |
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| FORM PTO-1595 (Rev. 6-93) OMB No. 0651-0011 (exp. 4/94) Please record the attached orig | inal |
| Name of conveying party(ies) (date executed): Gordon W. Duff (Executed December 2, 2004) | 2. Name and address of receiving party(ies) Name: University of Sheffield Internal Address: Intellectual Property Department |
| Additional name(s) of conveying party(ies) attached? Yes No Nature of conveyance: | Street Address: Firth Court, Western Bank Sheffield S10 2TN, United Kingdom |
| | Additional name(s) & address(es) attached? ☐ Yes ☒ No |
| 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution d A. Patent Application No(s): 10/914,396 filed August 9, 2004 Additional numbers attached | B. Patent No(s): |
| 5. Name and address of party to whom correspondence Concerning document should be mailed: Name: Ivor R. Elrifi | 6. Total number of applications and patents in coved: [51] 7. Total fee (37 CFR 3.41) \$40.00 |
| Address: MINTZ, LEVIN, COHN, FERRIS GLOVSKY and POPEO, P.C. One Financial Center Boston, MA 02111 | ☐ Enclosed ☐ The Commissioner is authorized to charge Deposit Account No: 50-0311, Reference No. 24299-518CIP. |
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| 8. Statement and signature To the best of my knowledge and belief, the foregoing information is true and Gregory J. Sieczkiewicz, Reg. No. 48,223 | correct and any attached copy is a true copy of the original document. December 15, 2004 |
| Name of Person Signing Signatu Total number of pages including cover sheet, attachments, and document: [3] | re Date |
| MAIL STOI Commission P. O. 1 | required cover sheet information to: P ASSIGNMENT ner of Patents Box 1450 VA 22313-1450 |

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PATENT **REEL: 016074 FRAME: 0996** Express Mail Label No.: EV464271506US Date of Deposit: December 15, 2004

Attorney Docket No. 24299-518CIP

ASSIGNMENT

I, Gordon W. Duff, the undersigned, for good and valuable consideration, the receipt of which is hereby acknowledged, hereby assign, sell and transfer to University of Sheffield, having an address of Firth Court, Western Bank, Sheffield S10 2TN, United Kingdom and its successors, assigns and legal representatives, all hereinafter referred to as the ASSIGNEE:

(1) my entire right, title and interest for the United States and in all countries, in and to any and all inventions, discoveries and applications which are disclosed in the application for United States Letters Patent entitled:

DIAGNOSTICS AND THERAPEUTICS FOR OSTEOPOROSIS

filed with the U.S. Patent and Trademark Office on August 9, 2004 and assigned Serial No. 10/914,396, including any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof and any substitute applications therefore; (2) the full and complete right to file patent applications in the name of the ASSIGNEE, its designee, or in my/our names at the ASSIGNEE, or its designee's election, on the aforesaid inventions, discoveries and applications in all countries of the world; (3) the entire right, title and interest in and to any Letters Patent which may issue thereon in the United States or in any country, and any renewals, revivals, reissues, reexaminations and extensions thereof, and any patents of confirmation, registration and importation of the same; and (4) the entire right, title and interest in all Convention and Treaty Rights of all kinds thereon, including without limitation all rights of priority in any country of the world, in and to the above inventions, discoveries and applications.

I hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in the United States and throughout the world to the ASSIGNEE of the entire right, title and interest therein, as fully and entirely as the same would have been held and enjoyed by me had this assignment, sale and transfer not been made.

I agree, at any time, upon the request of the ASSIGNEE, to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any part or parts thereof, and any applications for patents of confirmation, registration and importation based on any Letters Patent issuing on said inventions, discoveries, or applications and divisions, continuations, renewals, revivals, reissues, reexaminations and extensions thereof.

I further agree at any time to execute and to deliver upon request of the ASSIGNEE such additional documents, if any, as are necessary or desirable to secure patent protection on said inventions, discoveries and applications throughout all countries of the world, and otherwise to do the necessary to give full effect to and to perfect the rights of the ASSIGNEE under this Assignment, including the execution, delivery and procurement of any and all further documents evidencing this assignment, transfer and sale as may be necessary or desirable.

I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

PATENT REEL: 016074 FRAME: 0997 Confirmation No.: 5141 Filed: August 9, 2004

I further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

Date: 2/12/04

Signature of: Gordon W. Duff

Witness:

Dated: 3/12/04

Witness: Dysoc_

RECORDED: 12/15/2004

Dated: 3/12/04

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PATENT REEL: 016074 FRAME: 0998