## (19) World Intellectual Property Organization

International Bureau





## (43) International Publication Date 25 October 2001 (25.10.2001)

PCT

## (10) International Publication Number WO 01/079445 A3

(74) Agents: TESKIN, Robin, L. et al.; Pillsbury Winthrop

(51) International Patent Classification7: A61K 63/00, C12N 5/00, 5/02, 5/08, 15/00

LLP, 1600 Tysons Boulevard, McLean, VA 22102 (US).

(21) International Application Number: PCT/US01/12265

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,

(22) International Filing Date: 16 April 2001 (16.04.2001)

> LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

English (25) Filing Language:

(26) Publication Language:

English

(30) Priority Data:

60/197,407

14 April 2000 (14.04.2000) US (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,  $CG,\,CI,\,CM,\,GA,\,GN,\,GW,\,ML,\,MR,\,NE,\,SN,\,TD,\,TG).$ 

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US

60/197,407 (CON)

Filed on

14 April 2000 (14.04.2000)

(71) Applicant (for all designated States except US): AD-VANCED CELL TECHNOLOGY, INC. [US/US]; One Innovation Drive, Worcester, MA 01605 (US).

**Published:** 

with international search report

(72) Inventor; and

(75) Inventor/Applicant (for US only): WEST, Michael, D. [US/US]; 333 Commonwealth Avenue #7, Boston, MA 02115 (US).

For two-letter codes and other abbreviations, refer to the "Guid-

11 July 2002

(88) Date of publication of the international search report:

ance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PLURIPOTENT CELLS COMPRISING ALLOGENIC NUCLEUS AND MITOCHONDRIA

(57) Abstract: Allochimeric ES cells are provided having nuclei from one individual of a species and mitochondria from a different individual of the same species. The ES cells can be used for differentiation into differentiated cell types for therapy or for studying various developmental processes in forming embryos and differentiation.

## INTERNATIONAL SEARCH REPORT

International application No. PCT/US01/19965

|   | <del></del>   |  |  |  |
|---|---|--|--|--|
| A. CLASSIFICATION OF SUBJECT MATTER  IPC(7) :A61K 65/00; C12N 5/00, 02, 08; C12N 15/00  |   |  |  |  |
| US CL :424/93.2, 93.21: 435/ 325, 366, 378; 800/24  |   |  |  |  |
| According to International Patent Classification (IPC) or to both national classification and IPC   |   |  |  |  |
| B. FIELDS SEARCHED  |   |  |  |  |
| Minimum documentation searched (classification system followed by classification symbols)   |   |  |  |  |
| U.S.: 424/93.2, 93.21; 435/ 325, 366, 378; 800/24   |   |  |  |  |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched                     |   |  |  |  |
|   | data base consulted during the international search IOSIS, EMBASE, CAPLUS   | (name of data base and, where practicabl   | e, search terms used)                              |  |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT  |   |  |  |  |
| Category*   | Citation of document, with indication, where a  | appropriate, of the relevant passages  | Relevant to claim No.                              |  |
| Α   | WOLF, D.P. et al. Nuclear Transfer in the Rhesus Monkey: 1-20 Practical and Basic Implications. Biology of Reproduction. 1999, Vo. 60, pages 199-204.   |  | 1-20   |  |
| Α   | EVANS, M.J. et al. Mitochondrial DNA Genotypes in Nuclear Transfer-Derived Sheep. Nature Genetics. September 1999, Vol. 23, pages 90-93.  |  | 1-20   |  |
| A   | TAKEDA, K. et al. Dominant Distribution of Mitochondrial DNA from Recipient Oocytes in Bovine Embryos and Offspring After Nuclear Transfer. Journal of Reproduction and Fertility. 1999, Vol. 116, 253-259. |  | 1-20   |  |
| x   | US 6,011,197 A (STRELCHENKO et 53.  | al) 04 January 2000, col. 30-  | 1-20.  |  |
| Further documents are listed in the continuation of Box C. See patent family annex.   |   |  |  |  |
| Special categories of cited documents:  "A" document defining the general state of the art which is not considered to be of particular relevance. |   | "T" later document published after the international filling date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention   |  |  |
|   | ier document published on or after the international filing date  | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step  |  |  |
| L" doc  | ument which may throw doubts on priority claim(s) or which is<br>d to establish the publication date of another citation or other   | when the document is taken alone   |  |  |
| special reason (as specified)  O"  document referring to an oral disclosure, use, exhibition or other means                                       |   | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |  |  |
| P" document published prior to the international filing date but later - than the priority date claimed   |   | "X" document member of the same patent family  |  |  |
|   | actual completion of the international search   | Date of mailing of the international sea   | Pate of mailing of the international search report |  |
| 15 SEPTEMBER 2001   |   | 11 OCT 2001  |  |  |
| Name and mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT   |   | Authorized office Allens   |  |  |
| Washington, D.C. 20231  |   | DEBORAH CROUCH, PH.D.  | //   |  |
| Facsimile No  | 0. (703) 305-3230   | Telephone No. (703) 308-0196   | 1/   |  |