

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
6 March 2003 (06.03.2003)

PCT

(10) International Publication Number  
**WO 03/018767 A3**

- (51) International Patent Classification<sup>7</sup>: C12N 5/02, 5/06, A61K 35/12
- (21) International Application Number: PCT/US02/27137
- (22) International Filing Date: 27 August 2002 (27.08.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/314,654 27 August 2001 (27.08.2001) US
- (71) Applicant (for all designated States except US): **ADVANCED CELL TECHNOLOGY, INC.** [US/US]; One Innovation Drive, Worcester, MA 01605 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **PAGE, Raymond** [US/US]; 165 Brentwood Drive, Southbridge, MA 01550 (US). **DOMINKO, Tanja** [—/US]; One Innovation Drive, Worcester, MA 01605 (US). **MALCUIT, Chris** [—/US]; One Innovation Drive, Worcester, MA 01605 (US).
- (74) Agents: **TESKIN, Robin, L.** et al.; Pillsbury Winthrop LLP, 1600 Tysons Boulevard, McLean, VA 22102 (US).
- (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, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- (88) Date of publication of the international search report:  
20 November 2003
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 03/018767 A3

(54) Title: TRANS-DIFFERENTIATION AND RE-DIFFERENTIATION OF SOMATIC CELLS AND PRODUCTION OF CELLS FOR CELL THERAPIES

(57) Abstract: The invention provides a method for effecting the trans-differentiation of a somatic cell, i.e., the conversion of a somatic cell of one cell type into a somatic cell of a different cell type. The method is practiced by culturing a somatic cell in the presence of at least one agent selected from the group consisting of (a) cytoskeletal inhibitors and (b) inhibitors of acetylation, and (c) inhibitors of methylation, and also culturing the cell in the presence of agents or conditions that induce differentiation to a different cell type. The method is useful for producing histocompatible cells for cell therapy.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US02/27137

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : C12N 5/02, 5/06; A61K 35/12  
 US CL : 435/377, 325; 424/93.1

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. : 435/377, 325; 424/93.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 MEDLINE, BIOSIS, CAPLUS, EMBASE, EAST (US Patents Database)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HORNSBY et al. Redifferentiation, cellular elongation and the cell surface during lens regeneration. <i>J. Embryol. Exp. Morph.</i> 1977, Vol. 39, No. 1, pages 23-43, especially the Summary, Introduction, Discussion and Tables 2-5.	1, 5-8 and 12
X	THESINGH et al. Transdifferentiation of hypertrophic chondrocytes into osteoblasts in murine fetal metatarsal bones, induced by co-cultured cerebrum. <i>Bone and Mineral.</i> January 1991, Vol. 12, No. 1, pages 25-40, especially the Summary, Introduction and Table 1.	1, 5-8 and 12
X	US 5,166,317 A (WALLACE et al) 24 November 1992 (24.11.1992), col. 5, lines 16-30.	20
A	HAKELIEN et al. Novel Approaches to Transdifferentiation. <i>Cloning and Stem Cells.</i> 2002, Vol. 4, No. 4, pages 379-387.	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 filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

23 February 2003 (23.02.2003)

Date of mailing of the international search report

11 JUL 2003

Name and mailing address of the ISA/US  
 Commissioner of Patents and Trademarks  
 Box PCT  
 Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Bronwen M. Loeb

Telephone No. 703-308-0196