(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
6 February 2003 (06.02.2003)

PCT

(10) International Publication Number
WO 03/010303 A1

(51) International Patent Classification[7]: C12N 5/08

(21) International Application Number: PCT/AU02/00978

(22) International Filing Date: 23 July 2002 (23.07.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

PR 6560	24 July 2001 (24.07.2001)	AU
PS 1180	18 March 2002 (18.03.2002)	AU

(71) Applicants *(for all designated States except US)*: **ES CELL INTERNATIONAL PTE LTD** [AU/AU]; 4th Floor, Baker Medical Research Institute, Commercial Road, Prahran, Victoria 3181 (AU). **NETHERLANDS INSTITUUT VOOR ONTWIKKELINGSBIOLOGIE** [NL/NL]; Uppsalalaan 8, NL-3584 CT Utrecht (NL).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **MUMMERY, Christine, Lindsay** [GB/NL]; Hasebroeklaan 43, NL-3723 DJ Bilthoven (NL).

(74) Agent: **PHILLIPS ORMONDE & FITZPATRICK**; 367 Collins Street, Melbourne, Victoria 3000 (AU).

(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, 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*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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 03/010303 A1

(54) Title: METHODS OF INDUCING DIFFERENTIATION OF STEM CELLS

(57) Abstract: The present invention relates to methods of inducing differentiation of stem cells. In particular, the invention relates to methods of inducing differentiation of embryonic stem cells into muscle cells or vascular endothelial cells. The invention also includes cells, cell lines, testing models and culture systems used in the methods of the present invention and differentiated cells produced therefrom. The present invention also provides methods of using the differentiated cells of the present invention for therapeutic purposes.