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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 August 2003 (07.08.2003)

PCT

(10) International Publication Number
WO 2003/064463 A3

(51) International Patent Classification[7]: C07K 14/46, C12N 15/63, A61K 38/16, A01K 67/00, C12N 5/06

(21) International Application Number:
PCT/GB2003/000366

(22) International Filing Date: 30 January 2003 (30.01.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0202149.1 30 January 2002 (30.01.2002) GB

(71) Applicant *(for all designated States except US)*: **THE UNIVERSITY OF EDINBURGH** [GB/GB]; Old College, South Bridge, Edinburgh EH8 9YL (GB).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **CHAMBERS, Ian** [GB/GB]; The University of Edinburgh, Old College, South Bridge, Edinburgh EH8 9YL (GB). **SMITH, Austin, Gerard** [GB/GB]; The University of Edinburgh, Old College, South Bridge, Edinburgh EH8 9YL (GB).

(74) Agents: **SCHLICH, George, William** et al.; Mathys & Squire, 100 Gray's Inn Road, London WC1X 8AL (GB).

(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, SC, SD, SE, SG, 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, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

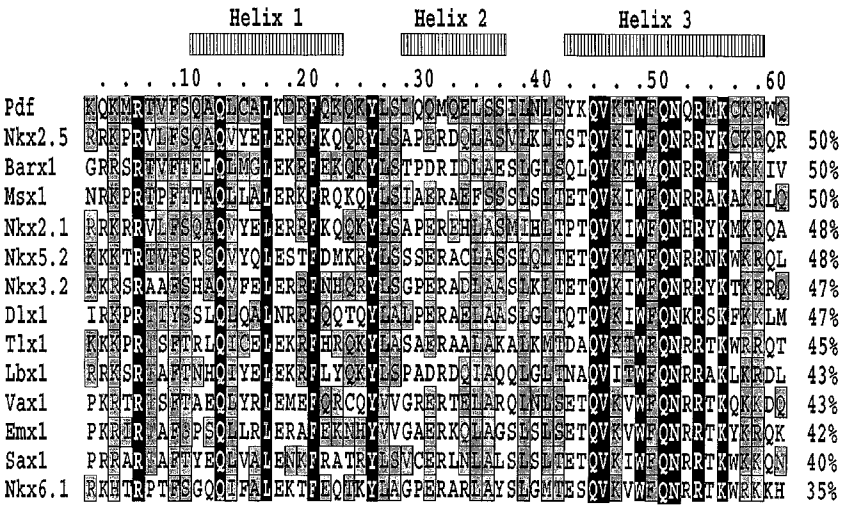
Published:
— *with international search report*
— *with amended claims*

(88) Date of publication of the international search report:
11 December 2003

Date of publication of the amended claims: 12 February 2004

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.

(54) Title: PLURIPOTENCY DETERMINING FACTORS AND USES THEREOF



(57) Abstract: Pluripotency determining factors are described which act intracellularly and maintain a pluripotent cell in a pluripotent state in the absence of gp130 activation, which maintain or confer pluripotency of a human stem cell, which maintain or confer pluripotency of a mouse ES cell, and which maintain or confer pluripotency of a stem cell from a non-permissive strain of mice. The factors and vectors encoding or activating the factors are used to maintain and derive pluripotent cells, especially of higher mammals, including humans.

WO 2003/064463 A3