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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 December 2009 (17.12.2009)

PCT

(10) International Publication Number
WO 2009/152529 A3

(51) International Patent Classification:
C12N 15/12 (2006.01) *C12N 5/10* (2006.01)
C12N 15/867 (2006.01) *C12Q 1/02* (2006.01)

(21) International Application Number:
PCT/US2009/047423

(22) International Filing Date:
15 June 2009 (15.06.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/061,525 13 June 2008 (13.06.2008) US
61/077,068 30 June 2008 (30.06.2008) US

(71) Applicant *(for all designated States except US)*: **WHITEHEAD INSTITUTE FOR BIOMEDICAL RESEARCH NINE CAMBRIDGE CENTER** [US/US]; Cambridge, MA 02142 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **JAENISCH, Rudolph** [US/US]; 111 Seaver Street, Brookline, MA 02146 (US).

(74) Agent: **TREANNIE, Lisa, M.**; Morse, Barnes-Brown & Pendleton, P.C., Reservoir Place, 1601 Trapelo Road, Suite 205, Waltham, MA 02451 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

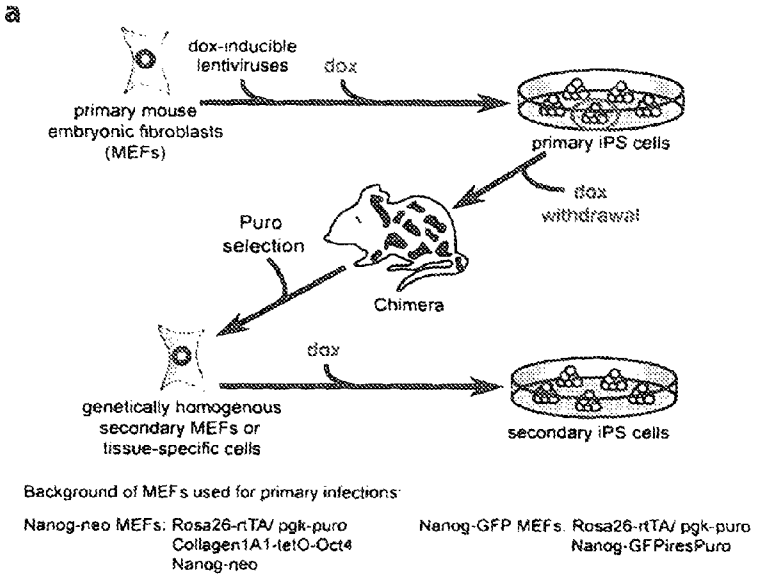
Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
1 July 2010

(54) Title: PROGRAMMING AND REPROGRAMMING OF CELLS



(57) Abstract: The disclosure relates to a method of reprogrammlng one or more somatic cells, e.g., partially differentiated or fully/terminally differentiated somatic cells, to a less differentiated state, e.g., a pluripotent or multipotent state. In further embodiments the invention also relates to reprogrammed somatic cells produced by methods of the invention, to chimeric animals comprising reprogrammed somatic cells of the invention, to uses of said cells, and to methods for identifying agents useful for reprogramming somatic cells.

WO 2009/152529 A3