

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
29 December 2005 (29.12.2005)

PCT

(10) International Publication Number
WO 2005/123123 A3

(51) International Patent Classification⁷: **C12N 5/16**,
5/22, A61K 35/12

(21) International Application Number:
PCT/US2005/005052

(22) International Filing Date:
16 February 2005 (16.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/864,788 8 June 2004 (08.06.2004) US
60/588,146 15 July 2004 (15.07.2004) US

(71) Applicant (for all designated States except US):
PRIMEGEN BIOTECH LLC [US/US]; 213 Technology Drive, Suite 100, Irvine, CA 92618 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SAYRE, Chauncey, B.** [US/US]; 231 Santa Louisa, Irvine, CA 92606 (US).
SILVA, Francisco, J. [CL/US]; 8186 Highridge Place, Rancho Cucamonga, CA 91730 (US).

(74) Agents: **CULLMAN, Louis, C.** et al.; Preston Gates & Ellis, LLP, 1900 Main Street, Suite 600, Irvine, CA 92614-7319 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, 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, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, HU, IE, IS, IT, LT, LU, MC, NL, 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
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
2 March 2006

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: THERAPEUTIC REPROGRAMMING, HYBRID STEM CELLS AND MATURATION



a



b

(57) Abstract: Therapeutically programmed cells and methods for making such cells are provided. Therapeutically programmed cells are stem cells which have been matured such that they represent either a more differentiated state or a less differentiated state after contact with stimulatory factors. The therapeutically reprogrammed cells are suitable for cellular regenerative therapy and have the potential to differentiate into more committed cell lineages. Additionally, hybrid stem cells suitable for therapeutic reprogramming and cellular regenerative therapy are provided.

WO 2005/123123 A3