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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
20 April 2006 (20.04.2006)

PCT

(10) International Publication Number
WO 2006/040755 A2

(51) International Patent Classification:
A61K 45/00 (2006.01) *C12N 5/08* (2006.01)

(21) International Application Number:
PCT/IL2005/001050

(22) International Filing Date:
29 September 2005 (29.09.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/963,834 14 October 2004 (14.10.2004) US

(71) Applicant *(for all designated States except US)*: **TECHNION RESEARCH & DEVELOPMENT FOUNDATION LTD.** [IL/IL]; Senate House, Technion City, 32000 Haifa (IL).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **GERECHT-NIR, Sharon** [IL/IL]; 45 Shimshon Street, 34678 Haifa (IL). **ITSKOVITZ-ELDOR, Joseph** [IL/IL]; 42 SheErit HaPleta Street, 34987 Haifa (IL).

(74) Agent: **G. E. EHRLICH (1995) LTD.**; 11 Menachem Begin Street, 52 521 Ramat Gan (IL).

(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, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, 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, LV, 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:
— *without international search report and to be republished upon receipt of that report*

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 2006/040755 A2

(54) **Title:** NOVEL METHODS FOR THE IN-VITRO IDENTIFICATION, ISOLATION AND DIFFERENTIATION OF VASCULOGENIC PROGENITOR CELLS

(57) **Abstract:** A simplified and inexpensive method for the in-vitro identification, isolation and culture of human vasculogenic progenitor cells is provided. The method and the progenitor cells provided herein can be used for in-vitro vascular engineering, treatment of congenital and acquired vascular and hematological abnormalities, for evaluation and development of drugs affecting vasculo- and angiogenic processes, and for further investigation into tissue differentiation and development.