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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
23 October 2003 (23.10.2003)

PCT

(10) International Publication Number
WO 03/087296 A2

(51) International Patent Classification[7]: C12N

(21) International Application Number: PCT/IL03/00320

(22) International Filing Date: 15 April 2003 (15.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/372,429 16 April 2002 (16.04.2002) US
10/211,522 5 August 2002 (05.08.2002) US

(71) Applicant *(for all designated States except US)*: **TECHNION RESEARCH & DEVELOPMENT FOUNDATION LTD.** [IL/IL]; Senate House, Technion City, 32 000 Haifa (IL).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **GERECHT-NIR, Sharon** [IL/IL]; 45 HaShimshon, 34 678 Haifa (IL). **ITSKOVITZ-ELDOR, Joseph** [IL/IL]; 42 SheErit HaPleta Street, 34 987 Haifa (IL).

(74) Agent: **G. E. EHRLICH (1995) LTD.**; 28 Bezalel Street, 52 521 Ramat Gan (IL).

(81) Designated States *(national)*: AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), 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, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), 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, RO, SE, SI, SK, TR), OAPI patent (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 03/087296 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.