

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 July 2003 (24.07.2003)

PCT

(10) International Publication Number
WO 2003/059272 A3

(51) International Patent Classification⁷: **A61K 35/38**,
49/00, C12N 5/00, 5/06, 5/08

(21) International Application Number:
PCT/US2003/001129

(22) International Filing Date: 14 January 2003 (14.01.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/348,955 14 January 2002 (14.01.2002) US

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(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, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, 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).

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Published:

— with international search report

(88) Date of publication of the international search report:
5 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: MATERIALS FROM BONE MARROW STROMAL CELLS FOR USE IN FORMING BLOOD VESSELS AND PRODUCING ANGIOGENIC AND TROPHIC FACTORS

(57) Abstract: A therapeutic for use in inducing angiogenesis and vasculogenesis, the therapeutic including angiogenesis and vasculogenesis inducing factors isolated from stem cells in conjunction with a pharmaceutically acceptable cell therapy. A method of amplifying the production of angiogenesis and vasculogenesis inducing factors secreted by exposing stem cells to and co-culturing the stem cells with a compound for increasing the production of angiogenesis and vasculogenesis inducing factors. Angiogenesis and vasculogenesis inducing factors isolated and purified from stem cells for use in a therapy. A process for obtaining the angiogenesis and vasculogenesis inducing factors as set forth above, the process including the steps of isolating and purifying human mesenchymal stem cells from tissue prior to differentiation and then culture expanding the mesenchymal stem cells to produce a tool for neurological and musculoskeletal therapy. Isolated and culture expanded mesenchymal stem cells under the influence of a requisite compound, that are capable of differentiating and producing a desired cell phenotype needed for tissue repair.



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