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(54) Title: SOFT TISSUE REPAIR AND REGENERATION USING POSTPARTUM-DERIVED CELLS

(57) Abstract: Cells derived from postpartum tissue having the potential to support cells of and/or differentiate to cells of a soft tissue lineage, and methods of preparation and use of those postpartum tissue-derived cells, are provided by the invention. The invention also provides methods for the use of such postpartum-derived cells and products related thereto in therapies for conditions of soft tissue.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12N5/06		
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B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) IPC 7 C12N		
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Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, BIOSIS, WPI Data, PAJ, EMBASE, MEDLINE, CHEM ABS Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/032179 A1 (HARIRI ROBERT J) 13 February 2003 (2003-02-13)	1-25
Y	the whole document	26-113
X	MITCHELL K E ET AL: "Matrix cells from Wharton's jelly form neurons and glia" STEM CELLS, ALPHAMED PRESS, DAYTON, OH, US, vol. 21, no. 1, January 2003 (2003-01), pages 50-60, XP002281007 ISSN: 1066-5099	1-25
Y	the whole document	26-113
X	US 5 919 702 A (PURCHIO ANTHONY F ET AL) 6 July 1999 (1999-07-06)	1-41
Y	the whole document	42-113
	-/--	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents :		
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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Rojo Romeo, E

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	RAFII SHAHIN ET AL: "Therapeutic stem and progenitor cell transplantation for organ vascularization and regeneration." NATURE MEDICINE, vol. 9, no. 6, June 2003 (2003-06), pages 702-712, XP002312846 ISSN: 1078-8956 the whole document	26-41, 47-62, 66-89, 94-113
Y	RABBANY SINA Y ET AL: "Molecular pathways regulating mobilization of marrow-derived stem cells for tissue revascularization." TRENDS IN MOLECULAR MEDICINE, vol. 9, no. 3, March 2003 (2003-03), pages 109-117, XP002312847 ISSN: 1471-4914 the whole document	26-41, 47-62, 66-89, 94-113
Y	JACKSON K A ET AL: "Regeneration of ischemic cardiac muscle and vascular endothelium by adult stem cells" JOURNAL OF CLINICAL INVESTIGATION, NEW YORK, NY, US, vol. 107, no. 11, June 2001 (2001-06), pages 1395-1402, XP002976368 ISSN: 0021-9738 the whole document	26-41, 47-62, 66-89, 94-113
P,X	WO 03/068937 A (ANTHROGENESIS CORP) 21 August 2003 (2003-08-21) the whole document	1-113
P,X	US 2003/161818 A1 (DAVIS DUANE ET AL) 28 August 2003 (2003-08-28) the whole document	1-113

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/020956

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003032179 A1	13-02-2003	US 2002123141 A1	05-09-2002
		CA 2476553 A1	21-08-2003
		EP 1482787 A2	08-12-2004
		WO 03068937 A2	21-08-2003
		US 2003180269 A1	25-09-2003
		US 2004048372 A1	11-03-2004
		CA 2438153 A1	22-08-2002
		EP 1362095 A2	19-11-2003
		JP 2004528021 T	16-09-2004
		WO 02064755 A2	22-08-2002
		AU 2020902 A	18-06-2002
		CA 2430989 A1	13-06-2002
		EP 1349918 A1	08-10-2003
		JP 2004523220 T	05-08-2004
		WO 0246373 A1	13-06-2002
		CA 2437957 A1	22-08-2002
		EP 1367892 A1	10-12-2003
		WO 02063962 A1	22-08-2002
		US 2002160510 A1	31-10-2002
US 5919702 A	06-07-1999	AU 731827 B2	05-04-2001
		AU 4988897 A	15-05-1998
		CA 2269121 A1	30-04-1998
		EP 0939803 A1	08-09-1999
		JP 2001502905 T	06-03-2001
		KR 2000052709 A	25-08-2000
		NZ 335531 A	29-09-2000
		WO 9817791 A1	30-04-1998
WO 03068937 A	21-08-2003	US 2003032179 A1	13-02-2003
		CA 2476553 A1	21-08-2003
		EP 1482787 A2	08-12-2004
		WO 03068937 A2	21-08-2003
		US 2003180269 A1	25-09-2003
		US 2004048372 A1	11-03-2004
US 2003161818 A1	28-08-2003	US 2004136967 A1	15-07-2004