

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
27 May 2010 (27.05.2010)

PCT

(10) International Publication Number  
**WO 2010/059565 A3**

- (51) **International Patent Classification:**  
A61L 27/12 (2006.01)    A61K 47/02 (2006.01)  
A61L 27/38 (2006.01)
- (21) **International Application Number:**  
PCT/US2009/064611
- (22) **International Filing Date:**  
16 November 2009 (16.11.2009)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
61/116,484    20 November 2008 (20.11.2008)    US  
12/612,583    4 November 2009 (04.11.2009)    US
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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) **Title:** ALLOGRAFTS COMBINED WITH TISSUE DERIVED STEM CELLS FOR BONE HEALING

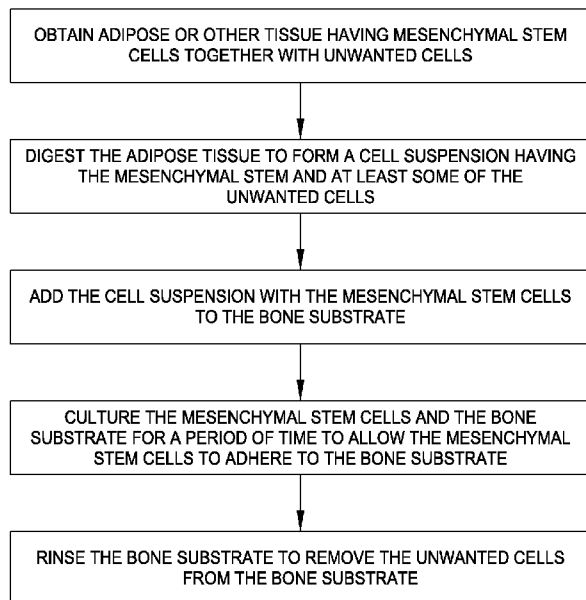


FIGURE 1

(57) **Abstract:** There is disclosed a method of combining mesenchymal stem cells (MSCs) with a bone substrate. In an embodiment, the method includes obtaining tissue having MSCs together with unwanted cells. The tissue is digested to form a cell suspension having MSCs and unwanted cells. The cell suspension is added to the substrate. The substrate is cultured to allow the MSCs to adhere. The substrate is rinsed to remove unwanted cells. In various embodiments, the tissue is adipose issue, muscle tissue, or bone marrow tissue. In an embodiment, there is disclosed an allograft product including a combination of MSCs with a bone substrate in which the combination is manufactured by culturing MSCs disposed on the substrate for a period of time to allow the MSCs to adhere to the substrate, and then rinsing the substrate to remove unwanted cells from the substrate. Other embodiments are also disclosed.



WO 2010/059565 A3



**Published:**

**(88) Date of publication of the international search report:**

19 August 2010

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2009/064611****A. CLASSIFICATION OF SUBJECT MATTER***A61L 27/12(2006.01)i, A61L 27/38(2006.01)i, A61K 47/02(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC : A61L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility Models and applications for Utility Models  
Japanese Utility Models and applications for Utility Models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) "mesenchymal stem cell", "bone substrate", "adipose tissue", "allograft product", "bone marrow tissue", "muscle tissue", and similar terms

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2006-112390 A1 (NAGAYA, N., et al.) See abstract, claims(1-15), and figure (1)	26 Oct. 2006 1-63
A	WO 2002-000272 A2 (HOEMANN, C. D., et al) See abstract, claims (1-99), and figures (1A-24B)	03 Jan. 2002 1-63
A	WO 2008-041854 A1 (BREULS, R. G. M., et al.) See abstract, claims (1-46), and figures (3, 4-I)	10 Apr. 2008 1-63
A	US 2007-0212676 A1 (TAKAKURA, N., et al.) See abstract, claims (12-22), and figure (1)	13 Sep. 2007 1-63

 Further documents are listed in the continuation of Box C. See patent family annex.

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

28 JUNE 2010 (28.06.2010)

Date of mailing of the international search report

**29 JUNE 2010 (29.06.2010)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

HYUN, SEUNG HOON

Telephone No. 82-42-481-8401



## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

**PCT/US2009/064611**

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