

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
18 May 2007 (18.05.2007)

PCT

(10) International Publication Number  
**WO 2007/055882 A3**

(51) International Patent Classification:  
A61K 8/00 (2006.01) A61F 2/12 (2006.01)

(21) International Application Number:  
PCT/US2006/040786

(22) International Filing Date: 20 October 2006 (20.10.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
11/268,392 7 November 2005 (07.11.2005) US  
11/414,860 1 May 2006 (01.05.2006) US  
11/490,431 20 July 2006 (20.07.2006) US

(71) Applicant and

(72) Inventor (for all designated States except US): TU, Hosheng [US/US]; 15 RIEZ, Newport Beach, CA 92657 (US).

(72) Inventor: QUIJANO, Rodolfo, C.; 27451 LOST TRAIL, Laguna Hills, CA 92653 (US).

(72) Inventor (for US only): WILLIAMS, Kenneth, J.; 328 TERRACE CIRCLE, Brawley, CA 92227 (US).

(72) Inventors: CARTER, Robert, L.; 1617 W. 46th Street, Joplin, MO 64804 (US). KISELYOV, Alexander; 4202 Shorepointe Way, San Diego, CA 92130 (US).

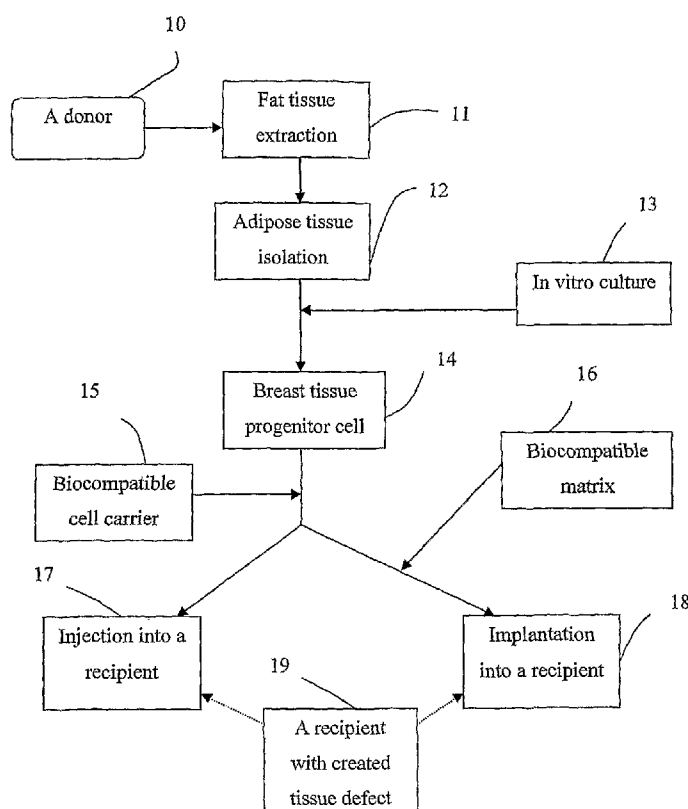
(74) Common Representative: TU, Hosheng; 15 RIEZ, Newport Beach, CA 92657 (US).

(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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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,

[Continued on next page]

(54) Title: BREAST AUGMENTATION AND RECONSTRUCTION SYSTEM



(57) Abstract: A stem-cell- seeded porous scaffold implant and delivery systems for treating or augmenting a breast tissue defect in a patient. Further, a breast template for delivering stem cell formulation to a breast defect of a patient for treating or augmenting a breast tissue defect comprising a flexible band with at least one throughput hole for guiding an injecting needle to penetrate into the breast of the patient, wherein the flexible band is configured to be placed intimately against a surface of the breast.



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:**

— with international search report

**(88) Date of publication of the international search report:**  
27 December 2007

*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.*

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/40786

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61K 8/00; A61F 2/12 (2007.01)

USPC - 424/93.7; 623/8

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)

USPC- 424/93.7; 623/8

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPC- 435/371

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

PubWEST (USPT, PGPB, EPAB, JPAB); Google Scholar

Search Terms Used: breast implant, stem cells, progenitor, adipose tissue, biodegradable, growth factor, vitamin, needle, matrix

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2004/0049269 A1 (CORBITT, JR. et al.) 11 March 2004 (11.03.2004), entire document, especially: abstract; para [0005], [0009], [0012], [0028], [0031], [0039]; claim 23, claim 25; FIG. 3, FIG. 6.	1-5, 10-14 and 17-18 6-9 and 15-16
Y	US 2001/0033834 A1 (WILKISON et al.) 25 October 2001 (25.10.2001), especially: para [0047], [0050], [0074].	6-9 and 15-16
Y	US 5,716,404 A (VACANTI et al.) 10 February 1998 (10.02. 1998), especially: col 7, ln 53, 54.	9

☐ Further documents are listed in the continuation of Box C. ☐

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"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

17 August 2007 (17.08.2007)

Date of mailing of the international search report

28 SEP 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300  
PCT OSP: 571-272-7774

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/40786

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
This application comprises the following two inventions:

Group 1: Claims 1-18 are directed to a composition for regenerating breast tissue, methods of administering the composition and a template for guiding the injection of this composition into breast tissue. None of these claims mention electrical energy.

Group 2: Claims 19-20 are directed to a bra that delivers electrical energy to breast tissue.

These claims are not directed to a single inventive concept. Therefore, they lack unity as required by PCT Rule 13.1.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
Claims 1-18

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.