

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

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 July 2003 (03.07.2003)

PCT

(10) International Publication Number
WO 03/053362 A3

(51) International Patent Classification⁷: **A61K 38/00**,
38/17, C12P 21/00, C07K 1/00, 14/00, A61M 1/00, A61B
17/32

(21) International Application Number: PCT/US02/40921

(22) International Filing Date:
20 December 2002 (20.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/342,910 20 December 2001 (20.12.2001) US

(71) Applicant (for all designated States except US): **MACRO-
PORE, INC.** [US/US]; 6740 Top Gun Street, San Diego,
CA 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FRASER, John, K.**
[US/US]; 10716 Ester Avenue, Los Angeles, CA 90064
(US). **HEDRICK, Marc, H.** [US/US]; 5147 Valjean Av-
enue, Encino, CA 91346 (US). **LLULL, Ramon** [ES/ES];
Place Hostals, Santa Maria, 10-A, E-Mallorca, Balearic
Isles 07320 (ES).

(74) Agent: **MULLINS, Kenton, R.**; Stout, Uxa, Buyan &
Mullins, LLP, 4 Venture, Suite 300, Irvine, CA 92168 (US).

(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, 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).

Published:

— with international search report

(88) Date of publication of the international search report:
23 October 2003

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: SYSTEMS AND METHODS FOR TREATING PATIENTS WITH COLLAGEN-RICH MATERIAL EXTRACTED
FROM ADIPOSE TISSUE

(57) Abstract: Compositions, methods, and systems are disclosed for using collagen-rich material, derived from adipose tissue, that is placed directly into a recipient along with such additives necessary to promote, engender, or support a therapeutic, structural, or cosmetic benefit. The compositions may be obtained during the course of a single surgical procedure, and may be administered to the patient immediately after adipose tissue is removed from a patient, such as within hours or days from being withdrawn from the patient.



WO 03/053362 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/40921

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

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)

U.S. : 514/2; 580/356, 412, 414, 424; 435/68.1, 267, 268, 272, 273; 604/35; 606/170

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

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

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	✓ COLEMAN III, et al. Autologous Collagen? Lipocytic Dermal Augmentation. A Histopathologic Study. J. Dermatol. Surg. Oncol. 1993, Vol. 19, pages 1032-1040, especially pages 1032-1034 and 1037-1039.	1-30
Y	✓ US 5,436,135 A (TAYOT et al) 25 July 1995, abstract and col. 5, lines 18 to col. 6, lines 56.	10-30
Y	✓ KATZ et al. A Novel Device for the Simple and Efficient Refinement of Liposuctioned Tissue. Plastic And Reconstructive Surgery. February 2001, Vol. 107, No. 2, pages 595-597.	31-44
Y	✓ US 6,090,121 A (WEBER et al) 18 July 2000, abstract and col.3, lines 65 to col. 10, lines 20.	31-44

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

"A"	document defining the general state of the art which is not considered to be of particular relevance	"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
"E"	earlier document published on or after the international filing date	"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
"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)	"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
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

03 APRIL 2003

Date of mailing of the international search report

30 JUL 2003

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

ABDEL A. MOHAMED

Telephone No. (703) 308-0196

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/40921

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CARPANEDA, C.A. Collagen Alterations in Adipose Autografts. Aesthetic Plastic Surgery. 1994, Vol. 18, pages 11-15.	1-30
A	SATTLER et al. Liporecycling: A Technique for Facial Rejuvenation and Body Contouring. Dermatol. Surg. December 2000, Vol. 26, No. 12, pages 1140-1144.	1-30

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/40921

A. CLASSIFICATION OF SUBJECT MATTER:

IPC (7):

A61K 38/00, 38/17; C12P 21/00; C07K1/00, C07K 14/00; A61M 1/00; A61B 17/32

A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

514/2; 530/356, 412, 414, 424; 435/68.1, 267, 268, 272, 273; 604/35; 606/170

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

APS, CAS ONLINE, MEDLINE, EMBASE, BIOSIS, WPIDS

search terms: Adipose tissue or lipid?, collagen, remov? or purif? or separat? or solubiliz? cell? or fragment, inject? or administ? or treat? or therapeut?, sterile water or detergent or alcohol, device or syringe, liposuction device or system or lipoeectomy or lipoplasty.