

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
30 October 2003 (30.10.2003)

PCT

(10) International Publication Number
WO 2003/088905 A3

(51) International Patent Classification⁷: **A01N 63/00**

(21) International Application Number:
PCT/US2003/011623

(22) International Filing Date: 14 April 2003 (14.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/372,682 13 April 2002 (13.04.2002) US
10/412,821 11 April 2003 (11.04.2003) US

(71) Applicant and

(72) Inventor: MISHRA, Allan [US/US]; 1312 Orange Avenue, Menlo Park, CA 94025 (US).

(74) Agent: ALTMAN, Daniel, E.; KNOBBE, MARTENS, OLSON & BEAR, LLP, 2040 Main Street, Fourteenth Floor, Irvine, CA 92614 (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 (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), 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, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, 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, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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

26 August 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: COMPOSITIONS AND MINIMALLY INVASIVE METHODS FOR TREATING INCOMPLETE TISSUE REPAIR

(57) Abstract: Methods are described for using compositions containing platelet-rich plasma for the treatment of a variety of tissue lesions. Particularly, delivery of platelet-rich plasma to connective tissue is described. The described method and compositions have been shown to provide both pain relief and improved mobility in treatment of lateral epicondylitis.



WO 2003/088905 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/11623

A. CLASSIFICATION OF SUBJECT MATTER		
IPC(7) : A01N 63/00 US CL : 424/93.72		
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. : 424/93.72		
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) MEDLINE, BIOSIS, WPIDS, USPATFUL		
C. - DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	US 6,454,804 B1 (FERREE) 24 September 2002 (24.09.2002), column 3, lines 15-20 and 47-50.	1-8, 10
X	US 5,124,316 A (ANTONIADES et al.) 23 June 1992 (23.06.1992), entire document.	1-3, 5-10
X	US 5,510,102 A (COCHRUM) 23 April 1996 (23.04.1996), example 11.	1-3, 5-10
A	US 4,663,289 A (VEECH) 05 May 1987 (05.05.1987), Table 1.	1-10
<input type="checkbox"/> Further documents are listed in the continuation of Box C.		<input type="checkbox"/> See patent family annex.
* Special categories of cited documents:		"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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	
"E" earlier application or patent published on or after the international filing date	"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	
"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)	"Z" document member of the same patent family	
"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		
Date of the actual completion of the international search	Date of mailing of the international search report	
07 January 2004 (07.01.2004)	22 JUL 2004	
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. (703)305-3230	Authorized officer <i>Sandra Saucier</i> Sandra Saucier Telephone No. (703)308-0196	

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 1-10, drawn to a method of treating an injured tissue using platelet-rich plasma.

Group II, claims 11-14, drawn to a composition comprising a platelet-rich plasma and a pH-adjusting agent.

Group III, claim 15, drawn to a method of making a platelet-rich plasma composition comprising adjusting the pH to 7.3-7.5.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group II, a platelet rich plasma and a pH adjusting agent which does not contain an activator of platelets, cannot be considered a contribution over the prior art because the composition is known in the prior art. See Coller et al., "The pH dependence of quantitative ristocetin-induced platelet aggregation: theoretical and practical implications-a new device for maintenance of platelet-rich plasma pH", *Blood* 47 (5) : 841-54 (1976), where platelet-rich plasma and a pH adjusting agent, namely carbon dioxide, are discussed (abstract). Thus, the composition AS CLAIMED is old in the art and cannot be a special technical feature. Thus, the groups are not linked by a special technical feature, which must be a contribution over the prior art, and the groups have lack of unity of invention.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/11623

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

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

1. Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claim 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. Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

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 an additional fee, this Authority did not invite payment of any additional fee.
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.: 1-10

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.