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(71) Applicant *(for all designated States except US)*: **RTI BIOLOGICS, INC.** [US/US]; 11621 Research Boulevard, Alachua, FL 32615 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **ZHUKAUSKAS, Arunas A.** [US/US]; 14131 NW 25th Ave, Gainesville, FL 32606 (US). **GOEDE, Todd E.** [US/US]; 607 Turkey Creek, Alachua, FL 32615 (US). **SCHMITT, Eric J.** [US/US]; 2260 NW 40th Place, Gainesville, FL 32605 (US). **BROWN, Lauren M.** [US/US]; 3002B NW 79th Court, Gainesville, FL 32606 (US). **GROVER, Guy B.** [US/US]; 1219 NW 55th Street, Unit 20, Gainesville, FL 32605 (US). **BURSAC, Predrag** [US/US]; 4387 NW 48th Street, Apt. 103, Gainesville, FL 32606 (US). **SANDERS, Ben R.** [US/US]; 9857 NW 136th Drive, Alachua, FL 32615 (US).

(74) Agent: **KOFFLIN, Sarah A.**; Mcandrews, Held & Malloy, Ltd., 500 W. Madison St., 34th Floor, Chicago, IL 60661 (US).

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[Continued on next page]

(54) Title: PROGRESSIVE GRIP ASSEMBLED BONE-TENDON-BONE GRAFTS, METHODS OF MAKING, AND METHODS OF USE

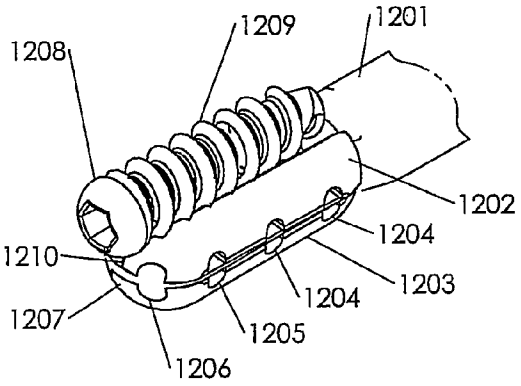


FIG. 12A

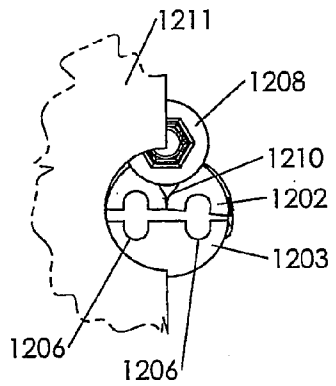


FIG. 12B

(57) Abstract: The present technology is related to the field of bone-tendon-bone implants, grafts, and components thereof, for implantation in mammals, particularly for implantation in humans. More particularly, the present technology relates to assembled implants that comprise a length of tendon (1201) and at least two bone components (1202, 1203) or intermediate bone blocks that are assembled to form a bone- tendon-bone implant, and methods of making such implants. In some embodiments, implants of the present technology provide a first grip on the tendon prior to implantation and a second grip during or after implantation. In some embodiments, bone block assemblies or intermediate bone blocks of the present technology have a first geometric configuration prior to implantation and a second geometric configuration during or after implantation, e.g. break during implantation.

WO 2008/100679 A3

NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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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)
A61F

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 practical, search terms used)
EPO-Internal

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 2006/271192 A1 (OLSEN RAYMOND E [US] ET AL) 30 November 2006 (2006-11-30) paragraphs [0017] - [0045], [0099], [0114], [0145], [0149]	1-20, 23-49 19
X	EP 1 297 799 A (ETHICON INC [US]) 2 April 2003 (2003-04-02) paragraphs [0011] - [0017], [0054]; figures 24-28	1-4,9, 11-22, 31-37, 42-45, 47,48
X	US 5 108 431 A (MANSAT CHRISTIAN [FR] ET AL) 28 April 1992 (1992-04-28) the whole document	1-4,20, 42-45,47

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

* 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 document 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.
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 September 2008	30/09/2008

Name and mailing address of the ISA/	Authorized officer
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	Prechtel, A

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/051472

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/44544 A (BIONX IMPLANTS OY [FI]; KIEMA PIA [FI]; KOUSA PETTERI [FI]; JARVINEN M) 10 September 1999 (1999-09-10) page 7, lines 7-24; figures 1-4	1-4,9, 11-17, 19,20, 32-34, 41-47
X	WO 03/051236 A (REGENERATION TECH INC [US]) 26 June 2003 (2003-06-26) pages 14-16; figures 12A-12G,14A-14E	1-19,23, 24,31, 34,37, 39-49
Y	WO 2006/108114 A (UNIV COLORADO [US]; GALL KENNETH [US]; TYBER JEFFREY ALAN [US]; YAKACK) 12 October 2006 (2006-10-12) page 2, last paragraph - page 3, paragraph 1	19

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/051472

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:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an 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 reportcovers 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.:

1-49

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-49

   A bone-tendon assembly where a tendon is secured between two bone blocks that have a first grip in a pre-implantation configuration and a second grip in an implantation configuration.

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2. claims: 50-53

   Method of forming a bone-tendon assembly, where a block of bone with an attached Archille's tendon is split into pieces, each piece attached to a part of tendon and the tendon is then split along its fiber direction into pieces, so as to obtain pieces of bone each with a piece of tendon attached to it.

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3. claim: 54

   An assembled bone-tendon implant with a bone block assembly connected to a tendon, where the bone block assembly has an effective diameter of 9-12mm and the effective diameter of the tendon is about 80-120% of the effective diameter of the bone block assembly.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2008/051472

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