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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
9 January 2014 (09.01.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/006043 A3

(51) International Patent Classification:
G01N 33/50 (2006.01) *C12M 3/00* (2006.01)
C12M 1/00 (2006.01) *C12M 1/34* (2006.01)
G01N 33/68 (2006.01) *C12N 5/071* (2010.01)

(21) International Application Number:
PCT/EP2013/063932

(22) International Filing Date:
2 July 2013 (02.07.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12174599.6 2 July 2012 (02.07.2012) EP

(72) Inventor; and
(71) Applicant : **ZECH, Josef** [AT/AT]; Brennerstraße 15, A-6020 Innsbruck (AT).

(74) Agent: **VOSSIUS & PARTNER**; Siebertstraße 4, 81675 München (DE).

(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, BN, 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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC,

[Continued on next page]

(54) Title: DEVICE FOR SPEMATOZOA SELECTION

(57) Abstract: Device for spermatozoa selection comprising a first chamber configured to receive a first, seminal fluid; a second chamber configured to receive a second fluid, the second chamber being in fluid communication with the first chamber by means of at least one duct having a first opening to the first chamber and a second opening to the second chamber; and a displacement means adapted to displace at least some of the first, seminal fluid towards the first opening.

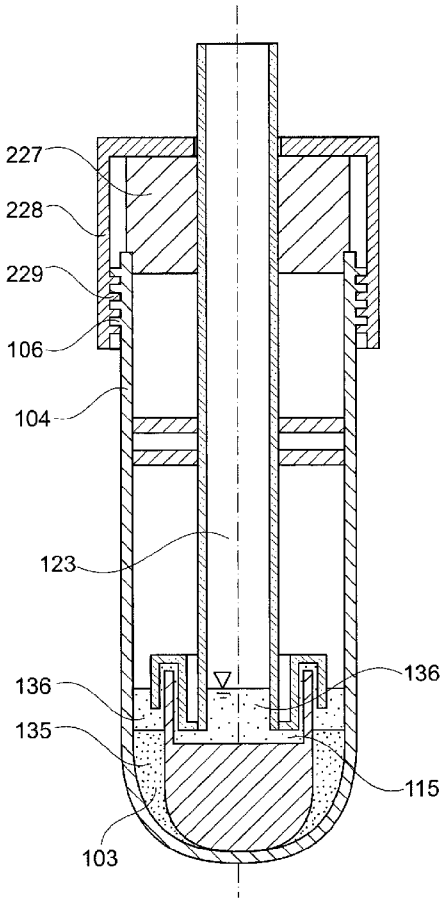


Fig. 12A

WO 2014/006043 A3

SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *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))*

(88) **Date of publication of the international search report**:
27 February 2014

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/063932

A. CLASSIFICATION OF SUBJECT MATTER
INV. G01N33/50 C12M1/00 G01N33/68 C12M3/00 C12M1/34
C12N5/071
ADD.
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)
C12M G01N C12N A61B

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)
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	US 2012/052485 A1 (SHANY VERED [IL] ET AL) 1 March 2012 (2012-03-01) paragraph [0297] - paragraph [0308] paragraph [0334] - paragraph [0335] claims 94,95; figure 1D	1-17,31
A	WO 2012/032165 A1 (ZECH JOSEF [AT]) 15 March 2012 (2012-03-15) cited in the application page 23, line 6 - line 25; figures 1,2	1-17,31
A	WO 00/09648 A1 (GENOSIS LTD [GB]; BATEMAN PAUL NORTH [GB]) 24 February 2000 (2000-02-24) page 5, line 22 - page 6, line 4 page 7, line 6 - page 8, line 19 figures 1,2	1-17,31

-/--

[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 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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
28 October 2013	10/01/2014

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, Fax: (+31-70) 340-3016	Cubas Alcaraz, Jose

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/063932

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01/60968 A1 (GENOSIS LTD [GB]; BRICKWOOD DAVID [GB]) 23 August 2001 (2001-08-23) page 11, line 10 - page 12, line 11 figures 1-5	1-17,31
A	US 5 866 354 A (FROMAN DAVID PAUL [US]) 2 February 1999 (1999-02-02) claims 15-30; figures 1-7	1-17,31

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2013/063932

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 all searchable 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 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.:

1-17(completely); 31(partially)

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.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/063932

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2012052485 A1	01-03-2012	EP 2421360 A1	29-02-2012
		US 2012052485 A1	01-03-2012
		WO 2010122562 A1	28-10-2010
WO 2012032165 A1	15-03-2012	EP 2614142 A1	17-07-2013
		US 2013164838 A1	27-06-2013
		WO 2012032165 A1	15-03-2012
WO 0009648 A1	24-02-2000	AT 227337 T	15-11-2002
		AU 756890 B2	23-01-2003
		AU 5431999 A	06-03-2000
		BR 9913039 A	08-05-2001
		CA 2333900 A1	24-02-2000
		CN 1312855 A	12-09-2001
		DE 69903831 D1	12-12-2002
		DE 69903831 T2	03-07-2003
		EP 1104454 A1	06-06-2001
		JP 3980271 B2	26-09-2007
		JP 2002522064 A	23-07-2002
		US 6391654 B1	21-05-2002
		WO 0009648 A1	24-02-2000
WO 0160968 A1	23-08-2001	AT 283913 T	15-12-2004
		AU 3387201 A	27-08-2001
		AU 2001233872 B2	07-10-2004
		CA 2399993 A1	23-08-2001
		DE 60107538 D1	05-01-2005
		DE 60107538 T2	10-11-2005
		EP 1255810 A1	13-11-2002
		ES 2234809 T3	01-07-2005
		JP 4091767 B2	28-05-2008
		JP 2003523194 A	05-08-2003
		US 2003096395 A1	22-05-2003
		US 2006110821 A1	25-05-2006
		WO 0160968 A1	23-08-2001
US 5866354 A	02-02-1999	NONE	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-17(completely); 31(partially)

   Device for spermatozoa selection comprising a first chamber to receive a first seminal fluid, a second chamber in fluid communication with the first chamber to receive a second fluid and displacement means adapted to displace at least some of the first fluid.

   ---

2. claims: 18-30(completely); 31(partially)

   Funnel structure for filling a liquid into a vessel
