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

(19) World Intellectual Property Organization

International Bureau





(10) International Publication Number WO 2016/067106 A3

## (43) International Publication Date 6 May 2016 (06.05.2016)

- (51) International Patent Classification: *A61B 10/02* (2006.01) *A61M 5/34* (2006.01)
- (21) International Application Number:

PCT/IB2015/002233

(22) International Filing Date:

21 October 2015 (21.10.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 14/527,898

30 October 2014 (30.10.2014)

- (72) Inventor; and
- (71) Applicant: AIMAATOUQ, Mohamed, Abdullah [SA/SA]; King Saud University Ring Road, P.O. Box 2925, Dept. Of Medicine (38), Riyadh (SA).
- (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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, 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, SA, SC,

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, ST, 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).

### **Declarations under Rule 4.17:**

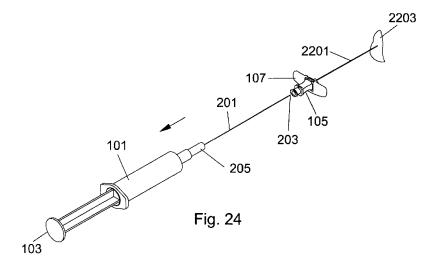
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

#### 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:

14 July 2016

(54) Title: ADVANCED BIOPSY NEEDLE



(57) Abstract: An Advanced Biopsy Needle is disclosed that provides both fine needle aspiration and core biopsy with a single insertion, thus reducing trauma and pain to the patient An inner needle for aspiration and an outer needle for core biopsy are in coaxial relation to each other, thus providing both histology and cytology functions with a single medical device and also with a single insertion. Lateral cutting edges along fenestration openings in the outer needle ensure that adequate tissue 'samples are taken. A syringe is attached to the inner needle for collection of aspirate.



### INTERNATIONAL SEARCH REPORT

International application No.

### PCT/IB2015/002233

# A. CLASSIFICATION OF SUBJECT MATTER IPC: *A61B 10/02* (2006.01), *A61M 5/34* (2006.01)

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)

IPC: A61B\* (2006.01), A61M\* (2006.01)

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

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

Questel-Orbit, Canadian Patent Database, Google. Keywords: biopsy needle, remov\*, releas\*, grip, handle, syringe, fenestrat, inner needle, outer needle, luer, aspirat\*, opening, window, slot

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2014/0018699 A1 (RUSNAK), 16 January 2014 (16-01-2014)	1-20
	**see abstract; FIG. 1, 8; paragraphs [0024], [0026], [0033-0038]	
Y	US 2003/0236471 A1 (FISHER), 25 December 2003 (25-12-2003)	1-20
	**see FIG. 1, 2, 10, 11; paragraphs [0033], [0059], [0067]	
Y	US 4,655,226 A (LEE), 7 April 1987 (07-04-1987)	5-8
	**see FIG. 2, 9; col. 2, lines 42-44 and col. 3, lines 61-68	
Y	US 7,179,232 B2 (SUTTON et al.), 20 February 2007 (20-02-2007)	11, 17
	**see abstract; FIG. 6C; column 2, lines 6-10	

Further documents are listed in the continuation of Box C.	See patent family annex.		
* Special categories of cited documents: 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	"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 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 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		
"P" document published prior to the international filing date but later than	"&" document member of the same patent family		
Date of the actual completion of the international search 18 May 2016 (18-05-2016)	Date of mailing of the international search report 30 May 2016 (30-05-2016)		
Name and mailing address of the ISA/CA Canadian Intellectual Property Office Place du Portage I, C114 - 1st Floor, Box PCT 50 Victoria Street Gatineau, Quebec K1A 0C9 Facsimile No.: 819-953-2476	Authorized officer  Jamie Hayami (819) 639-4735		

Form PCT/ISA/210 (second sheet ) (January 2015)

### INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

## PCT/IB2015/002233

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
JS2014018699A1	16 January 2014 (16-01-2014)	US2014018699A1 US9301736B2 US2010280408A1	16 January 2014 (16-01-2014) 05 April 2016 (05-04-2016) 04 November 2010 (04-11-2010)
JS2003236471A1	25 December 2003 (25-12-2003)	US2003236471A1 US6709408B2 AU2002362087A1 AU2002362087A8 AU2003267265A1 CA2469001A1 CA2469001C CA2499993A1 CA2499993C EP1450725A2 EP1450725A4 EP1542592A1 EP1542592A1 JP2005511186A JP4471342B2 US2003109899A1 US6592608B2 US2003135234A1 US6685727B2 US2004167433A1 US6872185B2 US2004167435A1 US6890309B2 US2004167435A1 US6908440B2 US2003135236A1 US7001410B2 US2003135235A1 US2003135235A1 US2003139377A1 US2003139377A1 US200313977A1 US200313977A1 US200313977A1 US200313977A1 US200313977A1 US200313977A1 US200313977A1 US200313977A1 US200313977A1 US2003049598A2 WO03049598A2 WO03049598A3 WO03049598B1 WO2004026142B1	25 December 2003 (25-12-2003) 23 March 2004 (23-03-2004) 23 June 2003 (23-06-2003) 08 April 2004 (08-04-2004) 19 June 2003 (19-06-2003) 17 June 2008 (17-06-2008) 01 April 2004 (01-04-2004) 06 August 2013 (06-08-2013) 01 September 2004 (01-09-2004) 23 March 2005 (23-03-2005) 22 June 2005 (23-03-2005) 23 June 2009 (03-06-2009) 28 April 2005 (28-04-2005) 03 June 2009 (03-06-2009) 28 April 2005 (28-04-2005) 03 June 2003 (15-07-2003) 15 July 2003 (15-07-2003) 17 July 2003 (17-07-2003) 03 February 2004 (26-08-2004) 29 March 2005 (29-03-2005) 26 August 2004 (26-08-2004) 29 March 2005 (29-03-2005) 26 August 2004 (26-08-2004) 21 June 2005 (21-06-2005) 16 August 2004 (26-08-2004) 21 June 2005 (21-06-2005) 17 July 2003 (17-07-2003) 21 February 2006 (21-02-2006) 13 February 2006 (21-02-2006) 13 February 2003 (13-02-2003) 17 July 2003 (24-07-2003) 24 July 2003 (24-07-2003) 25 April 2004 (29-04-2004) 26 April 2004 (29-04-2004) 27 May 2004 (27-05-2004)
IS4655226A	07 April 1987 (07-04-1987)	US4655226A US4664128A	07 April 1987 (07-04-1987) 12 May 1987 (12-05-1987)
JS7179232B2	20 February 2007 (20-02-2007)	US2004267154A1 AT476144T AU2004255159A1 AU2004255159B2 CA2527118A1 DE602004028477D1 EP1641379A2 EP1641379A4 EP1641379B1 JP2007520253A WO2005004700A2 WO2005004700A3	30 December 2004 (30-12-2004) 15 August 2010 (15-08-2010) 20 January 2005 (20-01-2005) 16 August 2007 (16-08-2007) 20 January 2005 (20-01-2005) 16 September 2010 (16-09-2010) 05 April 2006 (05-04-2006) 04 March 2009 (04-03-2009) 04 August 2010 (04-08-2010) 26 July 2007 (26-07-2007) 20 January 2005 (20-01-2005) 20 April 2006 (20-04-2006)