

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 February 2006 (16.02.2006)

PCT

(10) International Publication Number
WO 2006/017746 A3

(51) International Patent Classification:
A61B 5/00 (2006.01)

(21) International Application Number:
PCT/US2005/027914

(22) International Filing Date: 5 August 2005 (05.08.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/599,752 6 August 2004 (06.08.2004) US
60/683,518 20 May 2005 (20.05.2005) US

(71) Applicants and

(72) Inventors: **HELLER, Adam, Ph.D.** [US/US]; Centergate Treetops, 5217 Old Spicewood Springs Road, Apartment 1505, Austin, Texas 78731 (US). **LIEBERMANN, Thomas, M.D.** [US/US]; 1316 Shannon Oaks Trail, Austin, Texas 78746 (US).

(74) Agents: **THOMPSON, Lynn, M.** et al.; TOWNSEND AND TOWNSEND AND CREW LLP, Two Embarcadero Center, 8th Floor, San Francisco, California 94111-3834 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

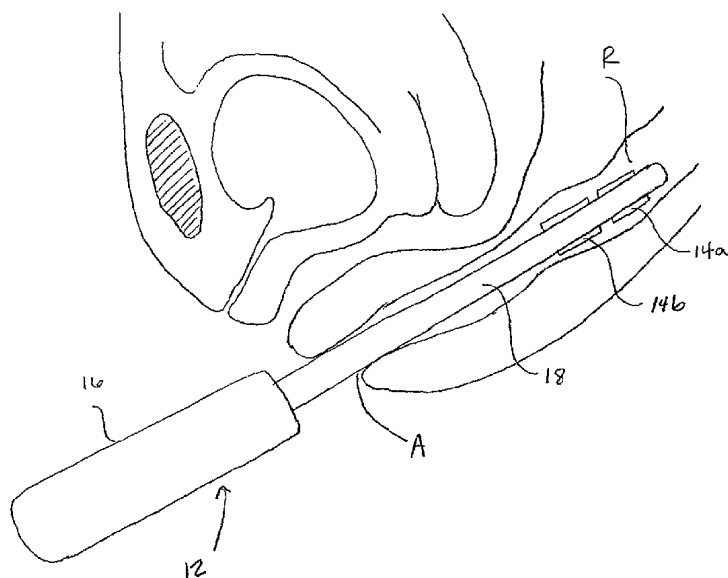
(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (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:
16 April 2009

(54) Title: DEVICES AND METHODS OF SCREENING FOR NEOPLASTIC AND INFLAMMATORY DISEASE



(57) Abstract: Methods and devices are provided for evaluating the presence of disease in a patient. In particular, methods and devices are provided for screening patients for neoplastic and/or inflammatory disease. Such diseases are often indicated by the elevated level of a chemical compound associated with disease, such as nitric oxide (NO) and/or nitrogen dioxide (NO₂). Through measuring and/or estimating the chemical compound-concentration, such as by change in fluorescence, absorbance or reflectance, the methods and tools provided distinguish between patients who require further testing and/or treatment and those who do not. The methods and tools also provide information about the effectiveness of treatment, such as treatment to reduce inflammation or control of the growth of malignant tumors. These methods and devices are relatively inexpensive, easy to use, and provide other advantages.

WO 2006/017746 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/27914

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **A61B 5/00**(2006.01)

USPC: 600/367,309

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. : 600/309,345-368,300

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)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,117,090 A (CAILLOUETTE) 12 September 2000 (12.09.2000), Abstract, figures 33-33b, and column 4, line 23, to column 12, line 20	1-42
A	US 2,664,879 A (HARDY) 05 January 1954 (04.01.1954), column 1, lines 1-15.	1 and 25
A	US 6,123,676 A (ANAPLIOTIS) 26 September 2000 (26.09.2000), Abstract.	1 and 25
A	US 3,509,872 (TRUHAN) 05 May 1970 (05.05.1970), Abstract.	1 and 25
A	US 3,528,429 A (BEAL et al), 15 September 1970 (15.09.1970), Abstract.	1 and 25



Further documents are listed in the continuation of Box C.



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	"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 application or patent 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	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search

18 June 2008 (18.06.2008)

Date of mailing of the international search report

08 JUL 2008

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. (571) 273-3201

Authorized officer

NAVIN NATNITHIYADHA

Telephone No. (571) 272-2975