

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
28 December 2006 (28.12.2006)

PCT

(10) International Publication Number
WO 2006/138183 A3

(51) International Patent Classification:
C12Q 1/68 (2006.01) *C12P 19/34* (2006.01)

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(21) International Application Number:
PCT/US2006/022623

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(22) International Filing Date: 9 June 2006 (09.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/691,768 16 June 2005 (16.06.2005) US
11/177,647 2 July 2005 (02.07.2005) US
11/177,646 2 July 2005 (02.07.2005) US
11/268,373 7 November 2005 (07.11.2005) US
60/735,876 14 November 2005 (14.11.2005) US
60/735,824 14 November 2005 (14.11.2005) US
60/743,639 22 March 2006 (22.03.2006) US
11/422,425 6 June 2006 (06.06.2006) 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, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, 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, 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).

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Published:
— with international search report

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(88) Date of publication of the international search report:
31 May 2007

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: MULTIPLEXED POLYMERASE CHAIN REACTION FOR GENETIC SEQUENCE ANALYSIS

(57) Abstract: A PCR method involving: providing a biological sample suspected of containing one or more pathogen nucleic acids; adding a plurality of PCR primers corresponding to genes found in the pathogens; and performing a polymerase chain reaction on the sample to amplify a subset of the nucleic acids that correspond to the genes. The primers include at least one primer pair for each pathogen, and the primers contain a tail sequence that is not homologous any pathogen DNA or to any background DNA in the sample. The concentration of at least one primer in the polymerase chain reaction is no more than about 100 nM.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/22623

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8): C12Q 1/68(2006.01);C12P 19/34(2006.01)

USPC: 435/6,91.1,91.2

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. : 435/6, 91.1, 91.2

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)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y --- A	WILSON et al. Sequence-specific identification of 18 pathogenic microorganisms using microarray technology. Molecular and Cellular Probes. 2002, Vol. 16, pages 119-127, especially pages 120, 122, and 123.	1, 2, and 5-22 ----- 3, 4
Y	US 5,853,989 (JEFFREYS et al.) 29 December 1998 (29.12.1998), column 13, lines 6-8, 17-22; Figure 1C.	1, 2, and 5-22
Y	US 5,958,686 (HOUNG) 28 September 1999 (28.09.1999), column column 4, lines 20-27.	1, 2, and 5-22
Y	US 2003/0082618 A1 (LI et al.) 01 May 2003 (01.05.2003), section [0007].	13
Y	US 6,287,776 (HEFTI) 11 September 2001 (11.09.2001), column 51, lines 53-56	16
Y	US 6,843,997 (GROSE et al.) 18 January 2005 (18.01.2005), column 2, lines 46-58.	17

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

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"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
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"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
26 December 2006 (26.12.2006)

Date of mailing of the international search report

28 FEB 2007

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/22623

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,837,832 (CHEE et al.) 17 November 1998 (17.11.1998), Figure 2.	17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/22623

Continuation of B. FIELDS SEARCHED Item 3:
Patent Databases (USPT, USPGP, EPO, JPO, DERWENT, IBM-TDB)
NPL (PubMed)
search terms: reducing/eliminating, primer dimer(s), amplification, hairpin, pathogens, multiplex PCR