

(51) International Patent Classification:  
**G01N 33/569** (2006.01) **C12Q 1/04** (2006.01)(21) International Application Number:  
PCT/US2009/057775(22) International Filing Date:  
22 September 2009 (22.09.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
61/098,935 22 September 2008 (22.09.2008) US  
61/179,059 18 May 2009 (18.05.2009) US  
12/502,662 14 July 2009 (14.07.2009) US(71) Applicant (for all designated States except US): **RAPID PATHOGEN SCREENING, INC** [US/US]; 7227 Delaine Ct., Sarasota, Florida 34240 (US).

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(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, 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, KM, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, 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:  
24 June 2010

(54) Title: METHOD AND DEVICE FOR COMBINED DETECTION OF VIRAL AND BACTERIAL INFECTIONS

Fig. 1

Disease State	Visual Test Result	C-Reactive Protein (> 15 mg/ml)	MxA (> 235 ng/ml)
Viral Infection	A	Negative	Positive
Bacterial Infection	B	Positive	Negative
Co Infection	C	Positive	Positive
Non-Infectious	D	Negative	Negative

  

	Control Line	CRP Test	MxA Test	
A	+	-	+	Viral Infection
B	+	+	-	Bacterial Infection
C	+	+	+	Co-Infection
D	+	-	-	Non-Infectious

(57) Abstract: A lateral flow assay detects and differentiates between viral and bacterial infections. A combined point of care diagnostic device tests markers for viral infection and markers for bacterial infection, to effectively assist in the rapid differentiation of viral and bacterial infections. In one preferred embodiment, the bacterial marker is CRP. In another preferred embodiment, the viral marker is MxA. In some embodiments, it is unnecessary to lyse the cells in the sample prior to applying it to the device.

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2009/057775****A. CLASSIFICATION OF SUBJECT MATTER****G01N 33/569(2006.01)i, C12Q 1/04(2006.01)i**

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)

G01N 33/569; G01N 21/78; G01N 33/53; G01N 33/543; G01N 33/558

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

(Chinese Patents and application for patent)

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

eKOMPASS(KIPO internal), NCBI database, KIPRIS, google, google scholar

&amp; Keywords: infection, viral, bacterial, CRP, MxA

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 1489416 A1 (KYOWA MEDEX CO., LTD.) 22 December 2004 See abstract and claim 1,2.	1-26
Y	MARKUS, H. et al., Pediatric Research, May 1997, Vol 41., No. 5., pages 647-650. ( <a href="http://journals.lww.com/pedresearch/Fulltext/1997/05000/Expression_of_MxArorotein_in_Blood_Lymphocytes.8.aspx#">http://journals.lww.com/pedresearch/Fulltext/1997/05000/Expression_of_MxArorotein_in_Blood_Lymphocytes.8.aspx#</a> ) See abstract and Results.	1-26
Y	CHIEUX, V. et al. Journal of Medical Virology, 1999, Vol. 59, pages 547-551. See abstract and pages 548-549.	1-26
Y	US 2008-0057493 A1 (GAO, F. et al.) 06 March 2008 See claims 1,13.	1-26
Y	US 2007-0184506 A1 (KLEPP, J. et al.) 09 August 2007 See abstract.	1-26

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

\* Special categories of cited documents:

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"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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

07 MAY 2010 (07.05.2010)

Date of mailing of the international search report

**10 MAY 2010 (10.05.2010)**

Name and mailing address of the ISA/KR

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2009/057775**

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