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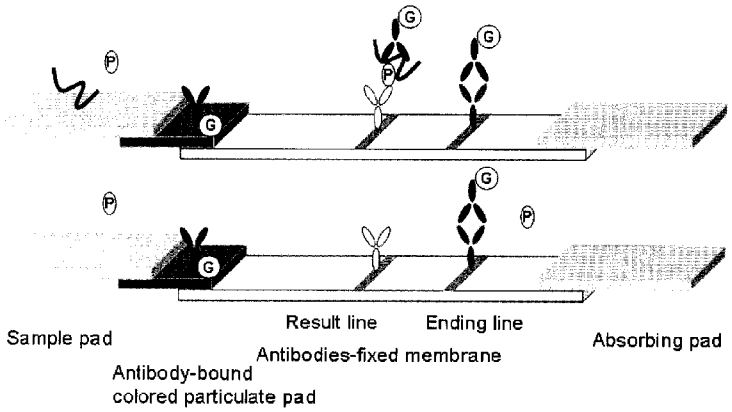
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— *with international search report (Art. 21(3))*

[Continued on next page]

(54) **Title**: KIT FOR DETECTING BACTERIAL INFECTION COMPRISING NOVEL MONOCLONAL ANTIBODIES

[Fig. 1]



(57) **Abstract**: The present invention provides a kit for detecting bacterial infection comprising a monoclonal antibody specifically binding to a peptidoglycan-recognition protein; and a monoclonal antibody specifically binding to a complex of peptidoglycan and the peptidoglycan-recognition protein. Using the kit, bacterial infection can be detected with high specificity and binding affinity. For example, the antibodies can even detect 20 pg of peptidoglycan selectively. The present invention also provides monoclonal antibodies, i.e., a monoclonal antibody specifically binding to a peptidoglycan-recognition protein and a monoclonal antibody specifically binding to a complex of peptidoglycan and the peptidoglycan-recognition protein, useful for a kit for detecting bacterial infection.

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— *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))*

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— *with sequence listing part of description (Rule 5.2(a))*

(88) Date of publication of the international search report:
29 September 2011

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2010/007710

A. CLASSIFICATION OF SUBJECT MATTER

G01N 33/569(2006.01)i, C07K 16/12(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; C07K 14/435; C07K 14/00

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: Peptidoglycan recognition protein, PGRP, bacterial peptidoglycan, monoclonal antibody, ELISA, detection kit

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	KR 10-2009-0072078 A (YUHAN CORPORATION) 02 July 2009 See the abstract, example 1 and claims.	7-9 1-6,10-12
X A	KR 10-2009-0029973 A (YUHAN CORPORATION) 24 March 2009 See the abstract, example 1 and claims.	7-9 1-6,10-12
A	PARK, J.-W. et al, 'Clustering of peptidoglycan recognition protein-SA is required for sensing lysine-type peptidoglycan in insects.' Proc. Natl. Acad. Sci. USA, 17 April 2007, vol. 104, No. 16, Pages 6602-6607. See the whole document.	1-12
A	KIM, C.-H. et al, 'A three-step proteolytic cascade mediates the activation of the peptidoglycan-induced toll pathway in an insect.' Journal of Biological Chemistry, 21 March 2008, vol. 283, No. 12, Pages 7599-7607. See the whole document.	1-12
A	WANG, L. et al. 'Sensing of gram-positive bacteria in Drosophila: GNBP1 is needed to process and present peptidoglycan to PGRP-SA.' The EMBO Journal, 05 October 2006, Vol. 25, Issue 20, Pages 5005-5014. See the whole document.	1-12

☒ 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
"E" earlier application or patent but published on or after the international filing date
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"O" document referring to an oral disclosure, use, exhibition or other means
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"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
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INTERNATIONAL SEARCH REPORT

International application No.
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PARK, J. et al. 'A synthetic peptidoglycan fragment as a competitive inhibitor of the melanization cascade.' Journal of Biological Chemistry, 24 March 2006, vol. 281, No. 12, Pages 7747-7755. See the whole document.	1-12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2010/007710

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of :

a. a sequence listing filed or furnished

- ☐ on paper
- ☒ in electronic form

b. time of filing or furnishing

- ☒ contained in the international application as filed
- ☐ filed together with the international application in electronic form
- ☐ furnished subsequently to this Authority for the purposes of search

2. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2010/007710

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-2009-0072078 A	02.07.2009	None	
KR 10-2009-0029973 A	24.03.2009	None	