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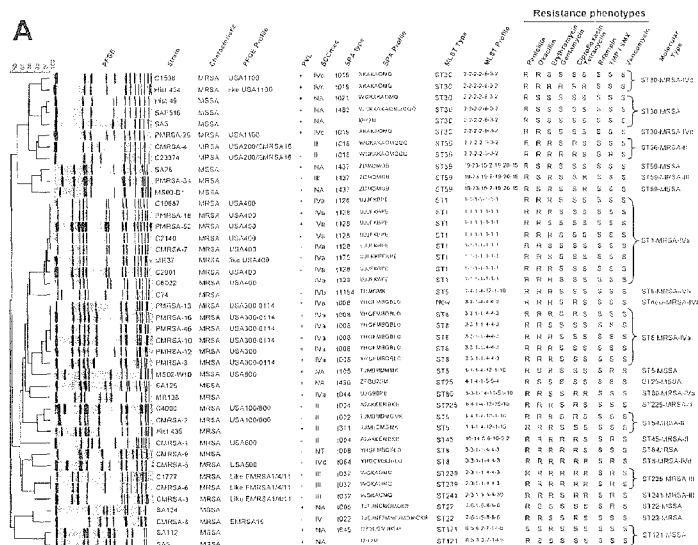
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(54) Title: MULTIPLEX PCR ASSAY FOR IDENTIFICATION OF USA300 AND USA400 COMMUNITY-ASSOCIATED
METHICILLIN RESISTANT STAPHYLOCOCCAL AUREUS STRAINS



(57) Abstract: The present invention relates to multiplex polymerase chain reaction (PCR) assays for Staphylococcus aureus typing. In particular, the invention relates to identification, detection and classification of US A300 and USA400 strains, the predominant community-associated methicillin-resistant S. aureus (MRSA) strains in North America, as well as other strains, and simultaneous detection of PVL genes and discrimination of MRSA from methicillin-susceptible S. aureus (MSSA) and S. aureus from coagulase-negative staphylococci (CoNS).

INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

IPC: *C12Q 1/68* (2006.01) , *C12Q 1/04* (2006.01) , *C12N 15/31* (2006.01) , *C07H 21/00* (2006.01) , *C12P 19/34* (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: *C12Q 1/68* (2006.01) , *C12Q 1/04* (2006.01) , *C12N 15/31* (2006.01) , *C07H 21/00* (2006.01) , *C12P 19/34* (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)

databases: Delphion, GenomeQuest Live, USPTO, Canadian Patent Database, PubMed

key words: MSRA, arca, lukS-PV, lukF-PV, MW756, MW1409, MW1438, mec, nuc, multiplex PCR, US300, US400

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	ZHANG, K. et al. New Quadriplex PCR Assay for Detection of Methicillin and Mupirocin Resistance and Simultaneous Discrimination of <i>Staphylococcus aureus</i> from Coagulase-Negative Staphylococci. J. Clin. Microbiol., November, 2004, vol. 42, No. 11, pages 4947 - 4955. ISSN 0095-1137 (see whole document)	1 - 15
A	ZHANG, K. et al. Novel Multiplex PCR Assay for Characterization and Concomitant Subtyping of Staphylococcal Cassette Chromosome <i>mec</i> Types I to V in Methicillin-Resistant <i>Staphylococcus aureus</i> . J. Clin. Microbiol., October, 2005, vol. 43, No. 10, pages 5026-5033. ISSN 0095-1137. (see whole document)	1 - 15
A	McClure, J.-A. et al. Novel Multiplex PCR Assay for Detection of the Staphylococcal Virulence Marker Pantone-Valentine Leukocidin Genes and Simultaneous Discrimination of Methicillin-Susceptible from -Resistant Staphylococci. J. Clin. Microbiol., March, 2006, vol. 44, No. 3, pages 1141 - 1144. ISSN 0095-1137. (see whole document)	1 - 15

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents :	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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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	BABA, T. et al. Genome and Virulence Determinants of High Virulence Community-Acquired MRSA. Lancet, May 25, 2002, vol. 359, No. 9320, pages 1819 - 1827. ISSN 0140-6736. (see whole document)	1 - 15
A	HIRAMATSU, K. et al. The Emergence and Evolution of Methicillin-Resistant <i>Staphylococcus aureus</i> . Trends Microbiol. October, 2001, vol. 9, No. 10, pages 486 - 493. ISSN 0966-842X. (see whole document)	1 - 15
A	IP, M. et al. Contemporary Methicillin-Resistant <i>Staphylococcus aureus</i> Clones in Hong Kong. J. Clin. Microbiol., October, 2005, vol. 43, No. 10, pages 5069 - 5073. ISSN 0095-1137. (see whole document)	1 - 15