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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,
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(54) **Title:** A GENOMIC APPROACH TO THE IDENTIFICATION OF BIOMARKERS FOR ANTIBIOTIC RESISTANCE AND SUSCEPTIBILITY IN CLINICAL ISOLATES OF BACTERIAL PATHOGENS

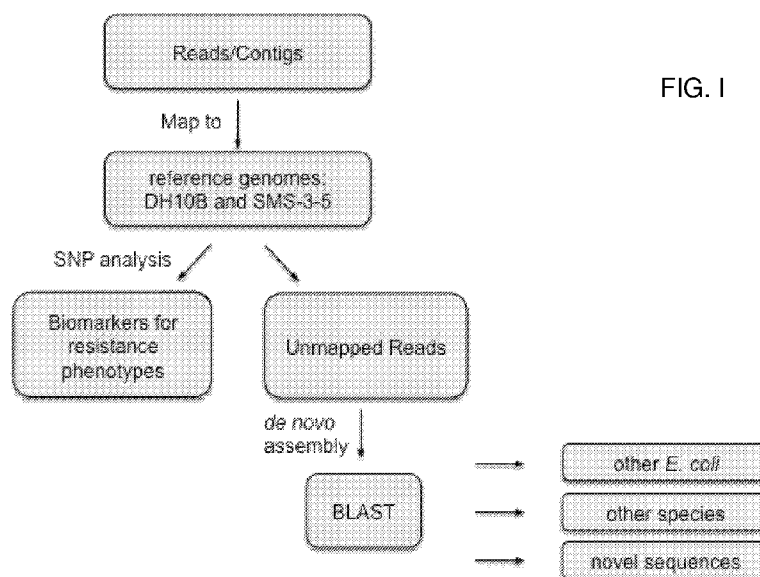


FIG. 1

(57) **Abstract:** A high-throughput genotypic detection method identifies bacteria that are resistant to a bacteria and subsequently determines an appropriate therapy. The detection method for biomarkers for antibiotic resistance and susceptibility allows efficient prescription practice and increases the likelihood of a successful therapeutic outcome. The information from the genotypic detection method is utilized for determining antibiotics that should be avoided or, alternatively, employed.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/23490

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G01N 33/48; G06F 19/10 (2012.01)

USPC - 702/19; 435/6.1; 436/94

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(8)- G01N 33/48; G06F 19/10 (2012.01);

USPC- 702/19; 435/6.1; 436/94

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

USPC- 702/20; 435/6.11, 6.12; 436/63;

Patents and NPL (classification, keyword; search terms below)

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

PubWest (US Pat, PgPub, EPO, JPO), GoogleScholar (PL, NPL), FreePatentsOnline (US Pat, PgPub, EPO, JPO, WIPO, NPL);

search terms: resistant, susceptible, detect, identify, bacteria, antibiotic, Staphylococcus, Staph, MRSA, methicillin, compare, sequence, SNP, gyrA, libB, mutM, recG, next, generation, sequencing

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009/0306230 A1 (SEMIKHODSKII et al.) 10 December 2009 (10.12.2009), para [0002], [0009]-[0017], [0020], [0023], [0030]-[0033], [0044], [0061], [0064], [0076]	1-3, 6-8 -----
Y		4, 5, 9
Y	US 2007/0248969 A1 (SAMPATH et al.) 25 October 2007 (25.10.2007), para [0010], [0202], [0265], [0297], [0429], [0433]; Table 2	4, 5
Y	US 2010/0120098 A1 (GRUNENWALD et al.) 13 May 2010 (13.05.2010), para [0006], [0017], [0146]	9
Y	US 2009/0181395 A1 (BECKER et al.) 16 July 2009 (16.07.2009), para [0009]-[0182]	1-9
Y	WO 2008/129428 A2 (PAITAN) 30 October 2008 (30.10.2008), para [0006]-[0210]	1-9
Y	US 2007/0082340 A1 (HULETSKY et al.) 12 April 2007 (12.04.2007), para [0013]-[0108]	1-9
Y	US 6,750,038 B1 (NAKANE) 15 June 2004 (15.06.2004), col 4-10	1-9

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“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

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