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(54) Title: METHOD FOR NON-INVASIVE PRENATAL DIAGNOSIS

(57) Abstract: The present invention is directed to methods of detecting nucleic acids in a biological sample. The method is based on a novel combination of a base extension reaction, which provides excellent analytical specificity, and a mass spectrometric analysis, which provides excellent specificity. The method can be used, for example, for diagnostic, prognostic and treatment purposes. The method can be used, for example, for diagnostic, prognostic and treatment purposes. The method allows accurate detection of nucleic acids that are present in very small amounts in a biological sample. For example, the method of the present invention is preferably used to detect fetal nucleic acid in maternal blood sample; circulating tumor-specific nucleic acids in a blood, urine or stool sample; and donor-specific acids in transplant recipients. In another embodiment, one can detect viral, bacterial, fungal, or other foreign nucleic acids in biological sample.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07H 21/04; C12Q 1/68

US CL : 435/6; 536/23.1

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; 536/23.1

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHIU et al. "Prenatal exclusion of B thalassaemia major by examination of maternal plasma." The Lancet. Vol. 360, pages 998-1000, September 2002.	1-4, 8-10
X	AMICUCCI et a. "Prenatal Diagnosis of myotonic dystrophy using fetal DNA obtained from Maternal plasma." Clinical Chemistry. Vol. 46, No. 2, pages 301-302, February 2000.	1, 9
X	SAITO et al. "Prenatal DNA diagnosis of single-gene disorder from maternal plasma." The Lancet. Vol. 356, pages 1170, September 2000.	1-2, 9

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

☐ See patent family annex.

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