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Uhlen

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[54] **SOLID PHASE DIAGNOSIS OF MEDICAL CONDITIONS**

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[30] Foreign Application Priority Data

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[58] Field of Search **435/6, 91.2; 935/77, 935/78**

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[57] ABSTRACT

A method of and kit for diagnosis of medical conditions by identification of specific DNA characterized in that DNA in a sample is subjected to initial amplification by the polymerase chain reaction (PCR) method using a first pair of primers specific to the target DNA and the amplified DNA so produced is further amplified by the PCR method using a second primer pair, one or both of which are different from either of said first primer pair and are specific to a sequence or sequences of the target DNA between the hybridization sites of said first primer pair, one of the primers of said second primer pair being immobilized on a solid support or being provided with means for subsequent attachment to a solid support and the other of said second pair of primers carrying a label or being provided with means for subsequent attachment to a label, said amplification being followed by separation of said solid support carrying said amplified DNA and detection of label attached thereto, one or both of said means for subsequent attachment comprising a distal DNA sequence carried by the said primer which does not hybridize with the target DNA but has a selective affinity for a binding partner attached to either a solid support or a label.

21 Claims, 16 Drawing Sheets