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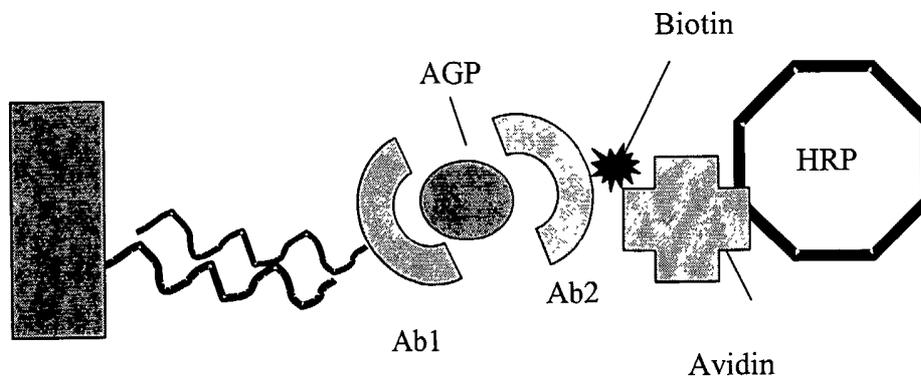
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(54) Title: ENZYME-AMPLIFIED REDOX MICROARRAY DETECTION PROCESS

HRP Reaction Scheme



(57) Abstract: There is disclosed a process and an array for assaying for binding of target molecules to capture molecules on microarray devices, wherein the microarray devices contain electrodes. Specifically, there is disclosed a binding (including nucleotide hybridization) process to detect binding on a microarray wherein the microarray contains electronically addressable electrode devices. There is further disclosed an enzymatically catalyzed oxidation/reduction reaction to take place within a "virtual flask" region of a microarray wherein the reaction is detected by current changes detected on the addressable electrode.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/28399

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/68; G01N 33/553, 27/327
 US CL : 435/7.92, 7.94, 6; 436/149

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. : 435/7.92, 7.94, 6; 436/149

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)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	LOWE, C.R. Chemoselective Biosensors. Current Opinion in Chemical Biology. 01 February 1999, Vol. 3, No. 1, pages 106-111, see entire document.	1-18
Y	KURZ, M. 'Development of High Density Antibody Mimic Microarrays'. In: Biochips 2001: Technology Development & Application (Polytechnic University, NY, USA). 2001 Metting Abstracts, 12-13, 12-13 March 2001, 12 March 4:30 P.M., see entire abstract.	1-18
Y	WANG, J. 'Electrochemical Sensors for Environmental Monitoring: A Review of Recent Technology'. New Mexico State University. Solicitation No. LV-94-012. April 2000, pages 1-16, see entire document.	
Y	Database CAPLUS on STN, AN 2000:561519. SOUTERAND et al. 'Use of Microtechnology for DNA Chips Implementation'. Applied Surface Science. 01 September 2000, Vol. 164, Nos. 1-4, pages 246-251, Abstract.	

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"T"
"A" document defining the general state of the art which is not considered to be of particular relevance	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
"B" earlier application or patent published on or after the international filing date	"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
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

SCIRUS, USPT

search terms: microarray, electrode\$, oxidation, reduction, redox, enzyme