



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>7</sup> :</b>  <b>C12Q 1/68</b>	<b>A3</b>	<b>(11) International Publication Number:</b> <b>WO 00/03038</b>  <b>(43) International Publication Date:</b> 20 January 2000 (20.01.00)
<b>(21) International Application Number:</b> PCT/US99/15705 <b>(22) International Filing Date:</b> 9 July 1999 (09.07.99)  <b>(30) Priority Data:</b> 09/112,437                      9 July 1998 (09.07.98)                      US  <b>(71) Applicant:</b> HEWLETT-PACKARD COMPANY [US/US]; Legal Dept., 3000 Hanover Street, MS 20BN, Palo Alto, CA 94304 (US).  <b>(72) Inventors:</b> SAMPSON, Jeffrey, R.; 1228 Drake Avenue, Burlingame, CA 94010 (US). YAKHINI, Zohar, H.; Simtat Hashazif 3, 30900 Zikhron Ya'acov (IL). SAMPAS, Nicholas, M.; 1418 Cherry Avenue, San Jose, CA 95125 (US). TSALENKO, Anna, M.; Apartment 811, 1642 E. 56th Street, Chicago, IL 60637 (US). MYERSON, Joel; 1320 Hopkins Street, Berkeley, CA 94702 (US). WEBB, Peter, G.; 345 Willow Road, Menlo Park, CA 94025 (US).  <b>(74) Agent:</b> KENNEDY, Bill; Hewlett-Packard Company, Legal Dept., 3000 Hanover Street, MS 20 BN, Palo Alto, CA 94304 (US).		<b>(81) Designated States:</b> DE, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims</i> <i>and to be republished in the event of the receipt of amendments.</i>  <b>(88) Date of publication of the international search report:</b> 16 March 2000 (16.03.00)
<b>(54) Title:</b> METHOD AND REAGENTS FOR ANALYZING THE NUCLEOTIDE SEQUENCE OF NUCLEIC ACIDS		
<b>(57) Abstract</b>  <p>Methods and reagents are disclosed which satisfy the need for more sensitive, more accurate and higher through-put analyses of target nucleic acid sequences. The methods and reagents may be generically applied to generally any target nucleic acid sequence and do not require <i>a priori</i> information about the presence, location or identity of mutations in the target nucleic acid sequence. The reagents of the invention are mixtures of natural and mass-modified oligonucleotide precursors having a high level of coverage and mass number complexity. A method is also disclosed for analyzing a target nucleic acid sequence employing the mixtures of natural and mass-modified oligonucleotide precursors and chemical or enzymatic assays to alter the mass of the oligonucleotide precursors prior to mass spectral analysis, generally via MALDI-TOF. The enzymatic assay may be a polymerase extension assay or a ligase assay. The kits for carrying out the methods of the invention are also disclosed.</p>		

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/15705

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 C12Q1/68

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 7 C12Q

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 practical, 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	WO 95 04160 A (ISIS INNOVATION ;SOUTHERN EDWIN (GB); CUMMINS WILLIAM JONATHAN (GB) 9 February 1995 (1995-02-09) cited in the application	1-8
Y	the whole document	9-67
Y	WO 98 20166 A (DEN BOOM DIRK VAN ;JURINKE CHRISTIAN (DE); HIGGINS G SCOTT (DE); L) 14 May 1998 (1998-05-14) the whole document	9-67
Y	WO 98 14616 A (PERSEPTIVE BIOSYSTEMS INC) 9 April 1998 (1998-04-09)  the whole document	9-41, 56-63, 66,67
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Patent family members are listed in annex.

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Date of the actual completion of the international search

20 January 2000

Date of mailing of the international search report

27/01/2000

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# INTERNATIONAL SEARCH REPORT

In. itional Application No  
PCT/US 99/15705

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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