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<p>(51) International Patent Classification ⁶ : G01N 1/28, 1/04</p>	<p>A3</p>	<p>(11) International Publication Number: WO 99/44063</p> <p>(43) International Publication Date: 2 September 1999 (02.09.99)</p>
<p>(21) International Application Number: PCT/US99/04001</p> <p>(22) International Filing Date: 24 February 1999 (24.02.99)</p> <p>(30) Priority Data: 60/075,979 25 February 1998 (25.02.98) US</p> <p>(71) Applicant (for all designated States except US): THE UNITED STATES OF AMERICA, represented by THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES [US/US]; National Institutes of Health, Office of Technology Transfer, Suite 325, 6011 Executive Boulevard, Rockville, MD 20852-3804 (US).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants (for US only): LEIGHTON, Stephen, B. [US/US]; 9007 Woodland Drive, Silver Spring, MD 20910 (US). KONONEN, Juha [FI/US]; 1920 Valley Stream Drive, Rockville, MD 20851 (US). KALLIONIEMI, Olli [FI/US]; 1083 Grand Oak Way, Rockville, MD 20852 (US).</p> <p>(74) Agent: NOONAN, William, D.; Klarquist, Sparkman, Campbell, Leigh & Whinston, LLP, Suite 1600 - One World Trade Center, 121 S.W. Salmon Street, Portland, OR 97204 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 4 November 1999 (04.11.99)</p>	
<p>(54) Title: TUMOR TISSUE MICROARRAYS FOR RAPID MOLECULAR PROFILING</p>		
<p>(57) Abstract</p> <p>An array-based technology facilitates rapid correlated gene copy number and expression profiling of a very large numbers of human tumors. Hundreds of cylindrical tissue biopsies (diameter 0.6 mm) from morphologically representative regions of individual tumors can be arrayed in a single paraffin block. Consecutive sections from such arrays provide targets for parallel in situ visualization and quantitation of DNA, RNA or protein targets. For example, amplifications of six loci (mybL2, erbB2, Cyclin-D1, myc, 17q23 and 20q13) were rapidly determined by fluorescence in situ hybridization from 372 ethanol-fixed breast cancers. Stratification of tumors by estrogen receptor and p53 expression data revealed distinct patterns of gene amplification in the various subgroups of breast cancer that may have prognostic utility. The tissue array technology is useful in the rapid molecular profiling of hundreds of normal and pathological tissue specimens or cultured cells.</p>		

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INTERNATIONAL SEARCH REPORT

International Application No.
PCT/US 99/04001

A. CLASSIFICATION OF SUBJECT MATTER		
G 01 N 1/28, G 01 N 1/04		
6		
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)		
G 01 N		
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	US 4914022 A (FURMANSKI et al.) 03 April 1990, fig. 1a, column 1, lines 62-64, column 2, lines 35-40, column 3, lines 27-30.	27
A	Claims 1, 2, 4-6.	1-3, 6, 7, 9, 10-13, 15, 16
A	GB 2197471 A (DEREK RICHARD GADSON) 18 May 1988, page 1, line 1 - page 3, line 85.	1, 6-13
A	US 4820504 A	1, 3, 7,
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input type="checkbox"/> Patent family members are listed in annex.		
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Date of the actual completion of the international search 18 June 1999		Date of mailing of the international search report 24. 08. 99
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl. Fax (+31-70) 340-3016		Authorized officer MOSSER e.h.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>(BATTIFORA) 11 April 1989, claims 1-7,10,13-16,20-37.</p> <p style="text-align: center;">--</p> <p>EP 0332322 A2 (ELSEVIER SCIENCE PUBLISHING CO., INC.) 13 September 1989, abstract, fig. 1, claim 1.</p> <p style="text-align: center;">----</p>	<p>9-13, 16,27- 30</p> <p>24-26</p>

ANHANG

zum internationalen Recherchenbericht über die internationale Patentanmeldung Nr.

ANNEX

to the International Search Report to the International Patent Application No.

ANNEXE

au rapport de recherche international relatif à la demande de brevet international n°

PCT/US 99/04001 SAE 227251

In diesem Anhang sind die Mitglieder der Patentfamilien der im obengenannten internationalen Recherchenbericht angeführten Patentdokumente angegeben. Diese Angaben dienen nur zur Unterrichtung und erfolgen ohne Gewähr.

This Annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The Office is in no way liable for these particulars which are given merely for the purpose of information.

La présente annexe indique les membres de la famille de brevets relatifs aux documents de brevets cités dans le rapport de recherche international visée ci-dessus. Les renseignements fournis sont donnés à titre indicatif et n'engagent pas la responsabilité de l'Office.

In Recherchenbericht angeführtes Patentdokument Patent document cited in search report Document de brevet cité dans le rapport de recherche	Datum der Veröffentlichung Publication date Date de publication	Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets	Datum der Veröffentlichung Publication date Date de publication
US A	4914022	03-04-1990	keine - none - rien
GB A1	2197471	18-05-1988	GB A0 8626920 GB A0 8725600
US A	4820504	11-04-1989	AT E 91788 AU A1 68697/87 AU B2 606329 CA A1 1295218 DE C0 3786572 DE T2 3786572 DK A0 687/87 DK A 687/87 EP A2 238190 EP A3 238190 EP B1 238190 ES AF 2004874 FI A0 870578 FI A 870578 IL A0 81529 JP A2 53132163 NO A0 870535 NO A 870535 NZ A 219237 PT A 84269 ZA A 8700925
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