

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

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 September 2003 (18.09.2003)

PCT

(10) International Publication Number
WO 03/076902 A3

(51) International Patent Classification⁷: **C12Q 1/68**,
G01N 1/14, 15/06, 33/53, A61K 38/00

(21) International Application Number: PCT/US03/07215

(22) International Filing Date: 7 March 2003 (07.03.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/363,348 8 March 2002 (08.03.2002) US

(71) Applicant: **INTEGRATED NANO-TECHNOLOGIES, LLC** [US/US]; 999 Lehigh Station Road, Suite 200, Henrietta, NY 14467-9311 (US).

(72) Inventors: **CHAFIN, David, R.**; 126 Rodney Lane, Rochester, NY 14625 (US). **CONNOLLY, Dennis, M.**; 289 Hollywood Avenue, Rochester, NY 14618 (US).

(74) Agents: **GOLDMAN, Michael, L.** et al.; Nixon Peabody LLP, Clinton Square, P.O. Box 31051, Rochester, NY 14603-1051 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, 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, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
27 November 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MULTIPLEX DETECTION OF BIOLOGICAL MATERIALS IN A SAMPLE

(57) Abstract: The present invention relates to a method of detecting target nucleic acid molecules in a sample. This method involves providing a plurality of different groups of two or more electrically separated electrical conductors with capture probes attached to the conductors such that a gap exists between the capture probes on the electrically separated conductors. The capture probes are contacted with a sample, potentially containing the target nucleic acid molecules, under conditions effective to permit any of the target nucleic acid molecule present in the sample to hybridize to the capture probes and thereby connect the capture probes. The presence of the target nucleic acid molecules is detected by determining whether electricity is conducted between the electrically separated conductors. Devices for carrying out this method are also disclosed.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/07215

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/68; G01N 1/14, 15/06, 33/53; A61K 38/00

US CL : 422/ 55, 56, 58, 63, 69, 76; 435/5, 6, 7.1, 7.2, 7.9, 90, 91.1; 530/300, 333, 350, 388.1

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. : 422/ 55, 56, 58, 63, 69, 76; 435/5, 6, 7.1, 7.2, 7.9, 90, 91.1; 530/300, 333, 350, 388.1

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)
WEST, BIOTECHNO, SCISEARCH, CAPLUS, JAPIO, EPLUS, BIOSIS, MEDLINE, DISS,**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,255,067 B1 (ROGERS) 1 May 2001 (01.05.2001), see entire document.	1-51
Y	US 6,235,479 B1 (ROGERS) 22 May 2001 (22.05.2001), see entire document.	1-51
Y	US 6,248,529 B1 (CONNELLY) 19 June 2001 (19.06.2001), see entire document.	1-51
Y	US 6,207,369 B1 (WOHLSTADTER et al) 27 March 2001 (27.03.2001), see entire document.	1-51
A	US 6,399,303 B1 (CONNOLLY) 4 June 2002 (04.06.2002), see entire document.	1-51
A	US 6,593,090 B1 (CONNOLLY) 15 July 2003 (15.07.2003), see entire document.	1-51

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Date of the actual completion of the international search

24 September 2003 (24.09.2003)

Date of mailing of the international search report

17 OCT 2003

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

J. Pines

Telephone No. 703-308-0196