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(54) Title: SEQUENCE-BASED KARYOTYPING

(57) Abstract: A new method for genomic analysis, termed "Sequence-Based Karyotyping," is described. Sequence-Based Karyotyping methods for the detection of genomic abnormalities, for diagnosis of hereditary disease, or for diagnosis of spontaneous genomic mutations are also described.



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INTERNATIONAL SEARCH REPORT

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PCT/US04/34890

A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 435/6; 702/19

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. : 435/6; 702/19

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, E	US 2004/0096892 A1 (WANG et al) 20 May 2004 (20.05.2004) especially pages 1-4, claims 1-16.	1-44
X	KAMEL, A. M. A simple strategy for breakpoint fragment determination in chronic myeloid leukemia, Cancer Gen. and Cytogenet., 2000, Vol. 122, pages 110-115.	1-2, 5, 12-15, 23-24, 31, and 41
Y	BARNAS, C. M. Determination and regional assignment of grouped sets of microclones in chromosome 1pter-p35, Genomics, 1995, Vol. 26, pages 607-615.	1-44
Y	MESTRINER, C. A., Structural and functional evidence that a B chromosome in the characid fish <i>Astyanax scabripinnis</i> is an isochromosome, 2000, Vol. 85, pages 1-9.	1-44
Y	US 6,197,506 B1 (FODOR et al) 6 March 2001 (06.03.2001), especially columns 31-35, 50, 57, 61-62.	1-44.
Y	KAUFMAN, P. B., Handbook of MOlecular and Cellular Methods in Biology and Medicine, CRC Press, Inc., 1995, Ch. 1, page 8.	34
Y	Naumova, E. S. Use of Molecular karyotyping for differentiation of species in the heterogenous taxon <i>Saccharomyces Exiguus</i> , J. Gen. Appl. Microbiol., 1996, Vol. 42, pages 307-314.	1-44
Y	Finke J. Detection of chromosome 11q23 involving translocations by pulsed field gel electrophoresis, Ann. Hematol., 1994, Vol. 68, pages 133-138.	1-44



Further documents are listed in the continuation of Box C.



See patent family annex.

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International application No.
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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.
Y	YEATES, C. Methods for microbial DNA extraction from soil for PCR amplification, Biol. Procedures Online, 14 May 1998, Vol. 1, No 1, 14, pages 40-47.	35-36
Y	US 6,416,956 B1 (BERG et al) 9 July 2002 (09.07.2002), col. 10 and col 24.	6-11 and 18
Y	US 5,472,842 A (STOKKE et al) 5 Dec. 1995 (05.12.1995), col. 8, lines 48-50.	17
Y	Hernandez, C. A. Human blastocysts culture with sequential media, Ginecologia y Obstetricia de Mexico, 2000, Vol. 68, pages 132-138, (English abstract only).	19
Y	US 2002/0098535 A (WANG et al) 25 July 2002 (25.07.2003), pages 14-15	42-44
Y	YOSHIURA, K., Genes, Chromosomes & Cancer, 1994, Vol. 9, pages 57-61.	16
Y	Yamada, K., Chromosome Research, 2002, Vol. 10, pages 513-523.	32-36
Y	US 5,272,057 A (SMULSON et al) 21 Dec. 2003 (25.12.1993), col. 4, line 16-27.	20-22 and 37-40

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Continuation of B. FIELDS SEARCHED Item 3:

East, STN, Medline, Biosis, Compuscience, Biotechno, Biotechds, Embase, WPU covering search: karyotyping, fragmentation, mapping, reference, statistical, statistically, sequencing, sequence, DNA, chromosome, digestion, DNAase, standard, sample, random, distribution.