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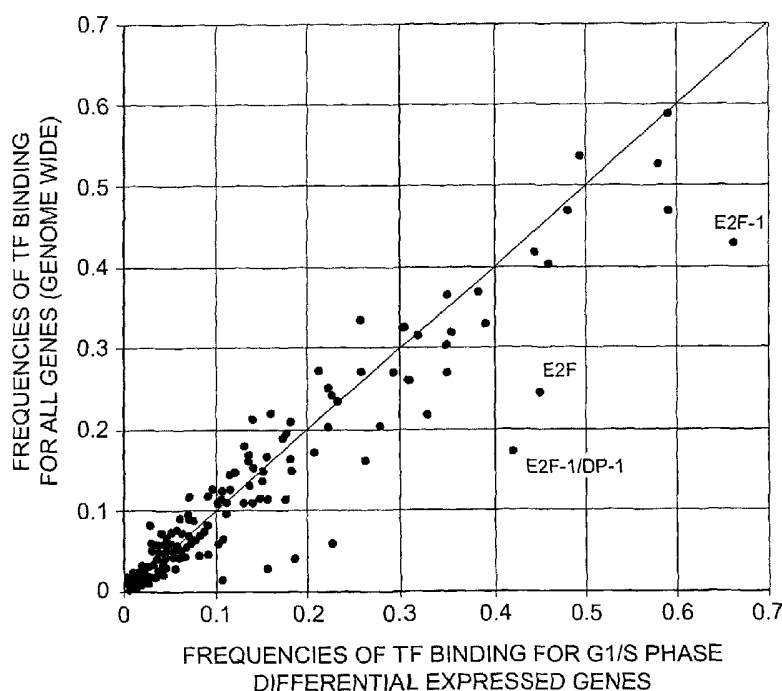
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(54) Title: STATISTICAL ANALYSIS OF REGULATORY FACTOR BINDING SITES OF DIFFERENTIALLY EXPRESSED GENES

FREQUENCIES OF TF BINDING SITES BETWEEN G1 AND S PHASE DIFFERENTIAL EXPRESSED GENES AN WHOLE GENOME BACKGROUND



(57) Abstract: The invention concerns the statistical analysis of regulatory factor binding sites of differentially expressed genes. More particularly, the invention concerns methods for identifying and characterizing regulatory factor, e.g. transcription factor binding sites in differentially expressed genes in order to develop therapeutic strategies for the treatment of diseased which are accompanied by differential gene expression or to study biological processes.

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INTERNATIONAL SEARCH REPORT

PCT/US2004/009059

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) EPO-Internal, INSPEC, EMBASE, COMPENDEX, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TAVAZOIE ET AL: "Systematic determination of genetic network architecture" NATURE GENETICS, NATURE AMERICA, NEW YORK, US, vol. 22, July 1999 (1999-07), pages 281-285, XP002953903 ISSN: 1061-4036	1-4, 9-14, 17-19, 21,22, 25,26,33
Y	page 281, right-hand column; page 282, right-hand column; page 285, "Methods" ----- -/--	5-8,15, 16,27-32
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
° Special categories of cited documents :		
A document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *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) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *T* 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 *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 *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. *&* document member of the same patent family		
Date of the actual completion of the international search 17 September 2004		Date of mailing of the international search report 28/09/2004
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 Hennard, C

INTERNATIONAL SEARCH REPORT

PCT/US2004/009059

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>SPELLMAN ET AL: "COMPREHENSIVE IDENTIFICATION OF CELL CYCLE-REGULATED GENES OF THE YEAST SACCHAROMYCES CEREVISIAE BY MICROARRAY HYBRIDIZATION" MOLECULAR BIOLOGY OF THE CELL, BETHESDA, MD, US, vol. 9, December 1998 (1998-12), pages 3273-3297, XP002143737 ISSN: 1059-1524 page 3276, right-hand column; page 3277, "Promoter Analysis"; pge 3279, middle left-hand column</p>	1-4, 9-14, 17-19, 25,26,33
X	<p>BARASH Y ET AL: "A simple hyper-geometric approach for discovering putative transcription factor binding sites" ALGORITHMS IN BIOINFORMATICS. FIRST INTERNATIONAL WORKSHOP, WABI 2001. PROCEEDINGS (LECTURE NOTES IN COMPUTER SCIENCE VOL.2149) SPRINGER-VERLAG BERLIN, GERMANY, vol. 2149, 2001, pages 278-293, XP009036723 ISBN: 3-540-42516-0 page 279, last paragraph; page 281, paragraph 2.1; page 287, paragraph 5</p>	1-4, 9-14, 17-19, 25,26, 33,34
Y	<p>WO 02/072871 A (ASHNI NATURACEUTICALS INC ; BABISH JOHN G (US); HATZIS CHRISTOS (US);) 19 September 2002 (2002-09-19) page 13, lignes 4-8; page 14, lines 10-26; page 18, lines 12-26; page 23, table 2.1</p>	5-8,15, 16,27-32
P,X	<p>KWON J Y ET AL: "Ethanol-response genes and their regulation analyzed by a microarray and comparative genomic approach in the nematode Caenorhabditis elegans" GENOMICS, ACADEMIC PRESS, SAN DIEGO, US, vol. 83, no. 4, April 2004 (2004-04), pages 600-614, XP004495992 ISSN: 0888-7543 page 609, "Identification of..."; page 610, figure 5; page 612, "Statistics"</p>	1-4,10, 13,14, 17-19, 25,26
E	<p>WO 2004/053106 A (MCARTHUR MICHAEL ; CLENDENNING JAMES (US); DORSCHNER MICHAEL O (US); H) 24 June 2004 (2004-06-24) page 17, line 25 - page 19, line 16; page 24, lines 1-10; page 31, lines 7-19; page 42, line 22 - page 48, line 7; page 61, line 21 - page 63, line 24;</p>	1-34

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2004/009059

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
- a. type of material
- a sequence listing
- table(s) related to the sequence listing
- b. format of material
- in written format
- in computer readable form
- c. time of filing/furnishing
- contained in the international application as filed
- filed together with the international application in computer readable form
- furnished subsequently to this Authority for the purpose of search
2. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

INTERNATIONAL SEARCH REPORT

Information on patent family members

PCT/US2004/009059

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
WO 02072871	A	19-09-2002	CA 2441060 A1	19-09-2002
			EP 1380001 A2	14-01-2004
			WO 02072871 A2	19-09-2002
			US 2003124548 A1	03-07-2003
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WO 2004053106	A	24-06-2004	WO 2004053106 A2	24-06-2004
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