

(19)



(11)

EP 2 014 776 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
01.04.2009 Bulletin 2009/14

(51) Int Cl.:
C12Q 1/68 (2006.01)

(43) Date of publication A2:
14.01.2009 Bulletin 2009/03

(21) Application number: **08012765.7**

(22) Date of filing: **06.04.2001**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**

(30) Priority: **06.04.2000 DE 10019058**
07.04.2000 DE 10019173
30.06.2000 DE 10032529
01.09.2000 DE 10043826

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
01969303.5 / 1 268 861

(71) Applicant: **Epigenomics AG**
10178 Berlin (DE)

(72) Inventors:
• **Olek, Alexander**
12207 Berlin (DE)
• **Piepenbrock, Christian**
10115 Berlin (DE)
• **Berlin, Kurt**
14532 Stahnsdorf (DE)

(74) Representative: **Bittner, Thomas L.**
Forrester & Boehmert
Pettenkoferstrasse 20-22
80336 München (DE)

(54) **Diagnosis of diseases associated with DNA transcription**

(57) The present invention relates to the chemically modified genomic sequences of genes associated with DNA transcription, to oligonucleotides and/or PNA-oligomers for detecting the cytosine methylation state of genes associated with DNA transcription which are di-

rected against the sequence, as well as to a method for ascertaining genetic and/or epigenetic parameters of genes associated with DNA transcription.

EP 2 014 776 A3



EUROPEAN SEARCH REPORT

Application Number
EP 08 01 2765

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	SEMINA E V ET AL: "CLONING AND CHARACTERIZATION OF A NOVEL BICOID-RELATED HOMEBOX TRANSCRIPTION FACTER GENE RIEG INVOLVED IN RIEGER SYNDROME" NATURE GENETICS, NATURE PUBLISHING GROUP, NEW YORK, US, vol. 14, no. 4, 1 December 1996 (1996-12-01), pages 392-399, XP002062612 ISSN: 1061-4036 * figures 1,3 * -----	1-3,8,9	INV. C12Q1/68
X	PELLEGRINI-BOUILLER I ET AL: "Expression of the members of the Ptx family of transcription factors in human pituitary adenomas" JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, ENDOCRINE SOCIETY, CHEVY CHASE, MD, vol. 84, no. 6, 1 June 1999 (1999-06-01), pages 2212-2220, XP002472610 ISSN: 0021-972X * abstract * * page 2214 * -----	1-3,8,9	TECHNICAL FIELDS SEARCHED (IPC) C12Q
X	DATABASE EMBL [Online] 14 December 1998 (1998-12-14), "Dictyostelium discoideum slug cDNA, clone SSB514." XP007906926 retrieved from EBI accession no. EMBL:AU037133 Database accession no. AU037133 * the whole document * ----- -/--	1,2	
The present search report has been drawn up for all claims			
4	Place of search Munich	Date of completion of the search 24 February 2009	Examiner Ulbrecht, Matthias
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

EPO FORM 1503 03.82 (P04C01)



EUROPEAN SEARCH REPORT

Application Number
EP 08 01 2765

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DATABASE EMBL [Online] 1 February 2000 (2000-02-01), "S8E7 AGS-1 Pneumocystis carinii f. sp. carinii cDNA 3', mRNA sequence." XP007906927 retrieved from EBI accession no. EMBL:AW332443 Database accession no. AW332443 * the whole document * -----	1,2	
X	WO 97/46705 A (UNIV JOHNS HOPKINS MED [US]) 11 December 1997 (1997-12-11) * table 2 * * claims 1-26 * -----	4-8	
X	WO 99/28498 A (EPIGENOMICS GMBH [DE]; OLEK ALEXANDER [DE]; OLEK SVEN STEFAN [DE]; WAL) 10 June 1999 (1999-06-10) * the whole document * -----	4-8	
A	PILAT M J ET AL: "Examination of the DNA methylation properties in nontumorigenic and tumorigenic breast epithelial cell lines." ANTICANCER RESEARCH 1998 JUL-AUG, vol. 18, no. 4A, July 1998 (1998-07), pages 2575-2582, XP009111280 ISSN: 0250-7005 * the whole document * -----	1-9	TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 24 February 2009	Examiner Ulbrecht, Matthias
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

 4
 EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 01 2765

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-02-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9746705 A	11-12-1997	AT 326549 T	15-06-2006
		CA 2257104 A1	11-12-1997
		DE 69735894 T2	19-04-2007
		DK 0954608 T3	21-08-2006
		EP 0954608 A1	10-11-1999
		ES 2264165 T3	16-12-2006
		IL 127342 A	25-07-2002
		JP 3612080 B2	19-01-2005
		JP 2000511776 T	12-09-2000
		JP 3725535 B2	14-12-2005
		JP 2004290200 A	21-10-2004
		PT 954608 T	31-08-2006
		US 6265171 B1	24-07-2001
WO 9928498 A	10-06-1999	AT 217348 T	15-05-2002
		AU 753368 B2	17-10-2002
		AU 2408599 A	16-06-1999
		CA 2310384 A1	10-06-1999
		CN 1283235 A	07-02-2001
		CZ 20001934 A3	15-11-2000
		DE 19754482 A1	01-07-1999
		DK 1034309 T3	26-08-2002
		EP 1034309 A2	13-09-2000
		ES 2173669 T3	16-10-2002
		HK 1033473 A1	13-10-2006
		HU 0100424 A2	28-06-2001
		IL 136158 A	25-07-2004
		IS 5493 A	12-05-2000
		JP 2001525181 T	11-12-2001
		NZ 504586 A	25-10-2002
		PL 341681 A1	23-04-2001
		PT 1034309 T	31-10-2002
		RU 2223324 C2	10-02-2004
		US 6214556 B1	10-04-2001

专利名称(译)	诊断与DNA转录相关的疾病		
公开(公告)号	EP2014776A3	公开(公告)日	2009-04-01
申请号	EP2008012765	申请日	2001-04-06
[标]申请(专利权)人(译)	埃皮吉諾米克斯股份公司		
申请(专利权)人(译)	AG EPIGENOMICS		
当前申请(专利权)人(译)	AG EPIGENOMICS		
[标]发明人	OLEK ALEXANDER PIEPENBROCK CHRISTIAN BERLIN KURT		
发明人	OLEK, ALEXANDER PIEPENBROCK, CHRISTIAN BERLIN, KURT		
IPC分类号	C12Q1/68 G01N27/62 A61K31/711 A61K48/00 A61P7/04 A61P9/10 A61P11/06 A61P13/12 A61P29/00 A61P35/00 B01J19/00 C07K14/46 C07K14/47 C07K14/82 C12M1/00 C12N15/09 C12Q1/48 G01N33/483 G01N33/53 G01N33/566 G01N37/00		
CPC分类号	A61P11/06 A61P13/12 A61P29/00 C07K14/4703 C07K14/82 C12Q1/6883 C12Q1/6886 C12Q2600/154 C12Q2600/156		
优先权	10019058 2000-04-06 DE 10019173 2000-04-07 DE 10032529 2000-06-30 DE 10043826 2000-09-01 DE		
其他公开文献	EP2014776A2		
外部链接	Espacenet		

摘要(译)

本发明涉及与DNA转录相关的基因的化学修饰的基因组序列，涉及用于检测与DNA转录相关的基因的胞嘧啶甲基化状态的寡核苷酸和/或PNA寡聚体，其针对该序列，以及方法用于确定与DNA转录相关的基因的遗传和/或表观遗传参数。

DOCUMENTS CONSIDERED TO BE RELEVANT		Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages		
X	SEMINA E V ET AL: "CLONING AND CHARACTERIZATION OF A NOVEL BICOID-RELATED HOMEOBOX TRANSCRIPTION FACTOR GENE RIEG INVOLVED IN RIEGER SYNDROME" NATURE GENETICS, NATURE PUBLISHING GROUP, NEW YORK, US, vol. 14, no. 4, 1 December 1996 (1996-12-01), pages 392-399, XP002062612 ISSN: 1061-4036 * figures 1,3 *	1-3,8,9	INV, C12Q1/68
X	PELLEGRINI-BOUILLER I ET AL: "Expression of the members of the Ptx family of transcription factors in human pituitary adenomas" JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, ENDOCRINE SOCIETY, CHEVY CHASE, MD, vol. 68, no. 6, 1 June 1999 (1999-06-01), pages 2212-2220, XP002472610 ISSN: 0021-972X * abstract *	1-3,8,9	TECHNICAL FIELD: C12Q
X	DATABASE EMBL [Online] 14 December 1998 (1998-12-14), Dictyostellium discoideum slug cDNA, clone 558514, XP007066926 retrieved from EBI accession no. EMBL:AU037133 Database accession no. AU037133 * the whole document *	1,2	
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		24 February 2009	Ulbrecht, Matthias
CATEGORY OF CITED DOCUMENTS C: particularly relevant if taken alone P: particularly relevant if combined with another document of the same category A: nonrelevant document R: intermediate document			
OTHER INFORMATION D: usually to be kept in mind when assessing the invention E: another patent document, but published only, or F: non-patent literature L: document cited for other reasons R: member of the same patent family, corresponding document			