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(88) Date of publication of the international search report:
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WO 02/000262 A3

(54) Title: MODULATION OF CHROMOSOME FUNCTION BY CHROMATIN REMODELING AGENTS

(57) Abstract: The present invention concerns a process for modulating the function of a DNA element in a eukaryotic cell, comprising the step of contacting a genomic DNA element, so-called "chromatin responsive element" (CRE), with a compound having a molecular weight of less than approximately 5 KDa, and having the capacity to bind a sequence-specific manner to said CRE, said step of contacting being carried out in conditions permitting chromatin remodeling of the CRE by said compound, wherein said chromatin remodeling of the CRE alters the activity of one or more other DNA elements, so called "modulated DNA elements" in the genome.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 01/08097

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K47/48

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 A61K

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)
CHEM ABS Data, EMBASE, BIOSIS, EPO-Internal, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BAILLY C ET AL: "SEQUENCE-SPECIFIC DNA MINOR GROOVE BINDERS. DESIGN AND SYNTHESIS OF NETROPSIN AND DISTAMYCIN ANALOGUES" BIOCONJUGATE CHEMISTRY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, US, vol. 9, no. 5, 1 September 1998 (1998-09-01), pages 513-538, XP000619990 ISSN: 1043-1802 cited in the application abstract --- -/--	1-76

[X] Further documents are listed in the continuation of box C.

[X] 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	Date of mailing of the international search report
12 August 2002	27/08/2002

Name and mailing address of the ISA	Authorized officer
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	Berte, M

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	SUROVAYA A N ET AL: "Hairpin polyamides that use parallel and antiparallel side-by-side peptide motifs in binding to DNA." JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS. UNITED STATES APR 1997, vol. 14, no. 5, April 1997 (1997-04), pages 595-606, XP000749591 ISSN: 0739-1102 abstract	1
X	BAGGA R ET AL: "HMG I /Y regulates long-range enhancer-dependent transcription on DNA and chromatin by changes in DNA topology." NUCLEIC ACIDS RESEARCH, (2000 JUL 1) 28 (13) 2541-50. , XP002209472 cited in the application abstract	1,52
X	DICKINSON LILIANE A ET AL: "Inhibition of RNA polymerase II transcription in human cells by synthetic DNA-binding ligands." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES, vol. 95, no. 22, 27 October 1998 (1998-10-27), pages 12890-12895, XP002209473 Oct. 27, 1998 ISSN: 0027-8424 cited in the application abstract; figures	1-76
P,X	JANSSEN S ET AL: "Specific gain- and loss-of-function phenotypes induced by satellite-specific DNA-binding drugs fed to Drosophila melanogaster." MOLECULAR CELL. UNITED STATES NOV 2000, vol. 6, no. 5, November 2000 (2000-11), pages 1013-1024, XP002209474 ISSN: 1097-2765 abstract	1-76
P,X	JANSSEN S ET AL: "Chromatin opening of DNA satellites by targeted sequence-specific drugs." MOLECULAR CELL. UNITED STATES NOV 2000, vol. 6, no. 5, November 2000 (2000-11), pages 999-1011, XP002209475 ISSN: 1097-2765 abstract	1-76

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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.
P,X	US 6 143 901 A (DERVAN PETER B) 7 November 2000 (2000-11-07) column 2, line 5 - line 11; claims 1,21-23,29,34	1-76
P,X	MAESHIMA KAZUHIRO ET AL: "Specific targeting of insect and vertebrate telomeres with pyrrole and imidazole polyamides." EMBO (EUROPEAN MOLECULAR BIOLOGY ORGANIZATION) JOURNAL, vol. 20, no. 12, 15 June 2001 (2001-06-15), pages 3218-3228, XP002209490 ISSN: 0261-4189 abstract; figure 3	1-76
E	WO 02 34295 A (SLOAN KETTERING INST CANCER ;MAPP ANNA (US); ANSARI ASEEM (US); DE) 2 May 2002 (2002-05-02) claims	1
E	WO 02 04476 A (UNIV GENEVE) 17 January 2002 (2002-01-17) claims	1

Continuation of Box I.2

Present claims 1-76 relate to an extremely large number of possible products or methods. In fact, the claims contain so many variables that a lack of clarity (and/or conciseness) within the meaning of Article 6 PCT arises to such an extent as to render a meaningful search of the claims impossible. Consequently, the search has been carried out for those parts of the application which do appear to be clear (and/or concise), namely products or methods have been searched recited in the examples and closely related homologous products.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

national application No.
PCT/EP 01/08097

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. [X] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 1-38 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

2. [X] Claims Nos.: -
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

see FURTHER INFORMATION sheet PCT/ISA/210

3. [ ] Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. [ ] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. [ ] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. [ ] As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. [ ] No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

[ ] The additional search fees were accompanied by the applicant's protest.

[ ] No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 01/08097

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