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18 October 2001

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.

WO 01/20004 A3

(54) Title: PROTEIN PHOSPHATASE AND KINASE PROTEINS

(57) Abstract: The invention provides human protein phosphatase and kinase proteins (PPHKP) and polynucleotides which identify and encode PPHKP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with expression of PPHKP.

INTERNATIONAL SEARCH REPORT

Inter ɔnal Application No
PCT/US 00/25515

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N15/55 C12N15/54 C12N15/11 C12N9/12 C12N9/16
C07K16/40 C12Q1/68 A01K67/027 A61K31/713 G01N33/50
G01N33/53

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 C12N C07K A61K G01N

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, BIOSIS, WPI Data, STRAND

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 09199 A (RYAZANOV ALEXEY G ;UNIV NEW JERSEY MED (US); PAVUR KAREN S (US); H) 25 February 1999 (1999-02-25) page 17 -page 18; figure 1 ---	1,3,4, 6-9,16
A	MARTELL K J ET AL: "HVH-5: A PROTEIN TYROSINE PHOSPHATASE ABUNDANT IN BRAIN THAT INACTIVATES MITOGEN-ACTIVATED PROTEIN KINASE" JOURNAL OF NEUROCHEMISTRY,US,NEW YORK, NY, vol. 65, no. 4, 1995, pages 1823-1833, XP000196676 ISSN: 0022-3042 --- -/--	

[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
19 February 2001	17 May 2001 (17.05.01)

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	Blanco Urgoiti, B

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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.
A	STONE S R ET AL: "THE NUCLEOTIDE SEQUENCE OF THE COMPLEMENTARY DNA ENCODING THE HUMAN LUNG PROTEIN PHOSPHATASE 2A-ALPHA CATALYTIC SUBUNIT" NUCLEIC ACIDS RESEARCH, vol. 16, no. 23, 1988, page 11365 XP002160654 ISSN: 0305-1048 ---	
A	KUHEN K L ET AL: "Mechanism of interferon action Sequence of the human interferon-inducible RNA-dependent protein kinase (PKR) deduced from genomic clones" GENE: AN INTERNATIONAL JOURNAL ON GENES AND GENOMES,GB,ELSEVIER SCIENCE PUBLISHERS, BARKING, vol. 178, no. 1, 31 October 1996 (1996-10-31), pages 191-193, XP004043360 ISSN: 0378-1119 -----	

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INTERNATIONAL SEARCH REPORT

national application No.
PCT/US 00/25515

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 claim 18 is 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.: 20,21,23,24
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:

see additional sheet

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. [X] 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.:

1-28 partially

Remark on Protest

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

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

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-28 (partially)

A polypeptide with an amino acid sequence of SEQ ID NO.1, 90% identitical, or an immunogenic or biological active fragment. The polynucleotide encoding the same. Promoter sequence, transformed host cell containing said polynucleotide. Transgenic organism comprising said polynucleotide. Method for producing the polypeptide of SEQ ID NO.1. An antibody binding to such polypeptide. A polynucleotide comprising the polynucleotide sequence of SEQ ID NO.12, 90% identical,or complementary. A polynucleotide comprising at least 60 nucleotides of said polynucleotide. A method for detecting such polynucleotide in a sample by hybridization with a probe. A method for detecting such polynucleotide in a sample by polymerase chain reaction. A composition comprising such polypeptide and a pharmaceutical excipient. A method for treating a disease, administering to a patient said composition. A method for screening an agonist of such polypeptide, and a composition comprising such agonist, and a pharmaceutical excipient. A method for screening an antagonist of such polypeptide, and a composition comprising such antagonist, and a pharmaceutical excipient. Methods of treatment using said agonist or antagonist. Method for screening ligands of said polypeptide. Method of screening modulators of the activity of such polypeptide. Method for screening modulators of the expression of the polynucleotide of SEQ ID NO.12. Method for assessing toxicity of a compound, adding such compound in a sample and comparing the ammount of said polynucleotide present in such a sample, compared to the ammount present in an untreated sample.

2. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 2 and polynucleotide of SEQ ID NO 13.

3. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 3 and polynucleotide of SEQ ID NO 14.

4. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 4 and polynucleotide of SEQ ID NO 15.

5. Claims: 1-28 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Idem as invention 1 but limited to polypeptide of SEQ ID NO 5 and polynucleotide of SEQ ID NO 16.

6. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 6 and polynucleotide of SEQ ID NO 17.

7. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 7 and polynucleotide of SEQ ID NO 18.

8. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 8 and polynucleotide of SEQ ID NO 19.

9. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 9 and polynucleotide of SEQ ID NO 20.

10. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 10 and polynucleotide of SEQ ID NO 21.

11. Claims: 1-28 (partially)

Idem as invention 1 but limited to polypeptide of SEQ ID NO 11 and polynucleotide of SEQ ID NO 22.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 20,21,23,24

Claims 20,21,23, and 24 refer to antagonists respectively agonists of the polypeptide without giving a true technical characterization. Moreover, no such compounds are defined in the application. In consequence, the scope of said claims is ambigous and vague, and their subject-matter is not sufficiently disclosed and supported (Art. 5 and 6 PCT). No search can be carried out for such purely speculative claims whose wording is, in fact, a mere recitation of the results to be achieved

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

.formation on patent family members

Inter onal Application No
PCT/US 00/25515

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9909199 A	25-02-1999	AU 9110098 A	08-03-1999
		EP 1060260 A	20-12-2000