



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : C12N 15/12, C07K 14/47</p>	<p>A3</p>	<p>(11) International Publication Number: WO 99/09054 (43) International Publication Date: 25 February 1999 (25.02.99)</p>
<p>(21) International Application Number: PCT/BE98/00124 (22) International Filing Date: 20 August 1998 (20.08.98) (30) Priority Data: 9700692 20 August 1997 (20.08.97) BE (71) Applicants (for all designated States except US): UNIVERSITE CATHOLIQUE DE LOUVAIN [BE/BE]; Halles Universitaires, Place de l'Université 1, B-1348 Louvain-la-Neuve (BE). UNIVERSITE DE MONS-HAINAUT [BE/BE]; Place du Parc 20, B-7000 Mons (BE). (72) Inventors; and (75) Inventors/Applicants (for US only): KNOOPS, Bernard [BE/BE]; Rue Chapelle Notre-Dane 3/1, B-1341 Ceroux-Mousty (BE). HERMANS, Cedric [BE/BE]; Avenue des Glycines 42, B-1030 Brussels (BE). BERNARD, Alfred [BE/BE]; Avenue de la Chapelle 6, B-1200 Brussels (BE). WATTIEZ, Ruddy [BE/BE]; Chemin du Sauvelon 17, B-7022 Hyon (BE). FALMAGNE, Paul [BE/BE]; Rue du Point du Jour 8, B-7022 Mesvin (BE). (74) Agents: VAN MALDEREN, Eric et al.; Office Van Malderen, Place Reine Fabiola 6/1, B-1083 Brussels (BE).</p>	<p>(81) Designated States: CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> (88) Date of publication of the international search report: 15 April 1999 (15.04.99)</p>	

(54) Title: PEROXISOME-ASSOCIATED POLYPEPTIDE, NUCLEOTIDE SEQUENCE ENCODING SAID POLYPEPTIDE AND THEIR USES IN THE DIAGNOSIS AND/OR THE TREATMENT OF LUNG INJURIES AND DISEASES, AND OF OXIDATIVE STRESS-RELATED DISORDERS

(57) Abstract

The present invention is related to an isolated and purified polypeptide which amino acid sequence presents more than 70 % with the sequence SEQ ID NO 1. The present invention is also related to the nucleotide sequence encoding said amino acid sequence, the inhibitor directed against said sequences and their use in the diagnosis, treatment and/or prevention of lung injuries or diseases and oxidative stress-related disorders.

CLUSTAL V alignment of human and rat B18 amino acid sequences (Identity: 90%, Homology: 97.5%):

```

B18hum  MAPIKVGDAIPAVEVEFEGEPGNKVNLAELFKGKKGVLFGVPGAFTPGCCK = SEQIDNO1
B18rat  MAPIKVGDTIPAVEVEFEGEPGNKVNLAELFKDKKGVLFVGVGAFTPGCCK
*****

B18hum  THLPGFVEQAEALKAKGVQVVAACLSVNDVAFVTGEWGRAHKAEGKVRLLAD
B18rat  THLPGFVEQAGALKAKGAQVVAACLSVNDVFTAEWGRAHQAEKVRLLAD
*****

B18hum  PTGAFGKETDLLLDDSLVSI FGNRRLKRFMSVVDGIVKALNVEPDGTGL
B18rat  PTGAFGKETDLLLDDSLVSL FGNRRLKRFMSVVDGIVKALNVEPDGTGL
*****

B18hum  TCSLAPNIISQL
B18rat  TCSLAPNLSQL
*****
    
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CLUSTAL V alignment of human and mouse B18 amino acid sequences (Identity: 91%, Homology: 96%):

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B18hum  MAPIKVGDAIPAVEVEFEGEPGNKVNLAELFKGKKGVLFGVPGAFTPGCCK
B18mouse MAPIKVGDAIPAVEVEFEGEPGNKVNLAELFKGKKGVLFGVPGAFTPGCCK
*****

B18hum  THLPGFVEQAEALKAKGVQVVAACLSVNDVAFVTGEWGRAHKAEGKVRLLAD
B18mouse THLPGFVEQAGALKAKGAQVVAACLSVNDVFTAEWGRAHQAEKVRLLAD
*****

B18hum  PTGAFGKETDLLLDDSLVSI FGNRRLKRFMSVVDGIVKALNVEPDGTGL
B18mouse PTGAFGKETDLLLDDSLVSL FGNRRLKRFMSVVDGIVKALNVEPDGTGL
*****

B18hum  TCSLAPNIISQL
B18mouse TCSLAPNLSQL
*****
    
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CLUSTAL V alignment of human and rat cDNA sequences (Identity: 612/780, 78.5%):

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B18hum  GCCAGGAGCGGAGTGGAAAGTGGCCGTGGGGCGGGTATGGGACTAGCTGG
B18rat  -----TG-----CGTC-----CTAGGCAG
*****

B18hum  CGTGTGGCCCTGAGACGCTCAGGGGCTATATACTCGTGGTGGGGCCG
B18rat  CATA---GCC---GGA---TCGGTCTCGGTGCATCGGCTACTGGAC--
*****

B18hum  GCGGTCAGTCTGCGGCGCGGCGAGCAAGCGGTGCACTGAAGGAGAGTGG
B18rat  -----GTGCGTGGCAGGCGAGCGGCGG---AAAGGAGCAGGTTGG
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/BE 98/00124

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 6 C12N15/12 C07K14/47

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 6 C12N C07K

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EMBL Accsion number N42215, 27 January 1996 HILLIER L. ET AL.: "N42215 I64154 hypothetical protein HI0572 - Haemophilus influenzae" XP002089366 see abstract	8,9
P,X	--- DATABASE EMBL Accession number AA639364, 1 November 1997 STRAUSBERG R.: "nq87d08.sl NCI CGAP Co9 Homo sapiens cDNA clone IMAGE:1159311 similar to TR:G558080 G558080 PUTATIVE PEROXISOMAL PROTEIN." XP002089367 see abstract --- -/--	8,9

Further documents are listed in the continuation of box C.

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.
- *Z* document member of the same patent family

Date of the actual completion of the international search

7 January 1999

Date of mailing of the international search report

12.02.99

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

Inter. .nal Application No
PCT/BE 98/00124

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category ^o	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p> DATABASE EMBL Accession number P73728, 1 February 1997 TABATA S.: "MEMBRANE PROTEIN from SYNECHOCYSTIS SP." XP002089368 see abstract ----- </p>	1-4

INTERNATIONAL SEARCH REPORT

International application No.
PCT/BE 98/00124

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

2. Claims Nos.: 10, 11-15 (part)
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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Claims Nos.: 10, 11-15 (part)

Claim 10 is directed to inhibitors of the amino acid / nucleotide sequences of claims 1-8. However, no such compounds are defined in the application. No search can be carried out for such purely speculative claims whose wording is, in fact, a mere recitation of the required result.

The same objection applies, mutatis mutandis, to claims 11-15 in as much as these claims refer to the subject-matter of claim 10.