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[Continued on next page]

(54) Title: HERMANSKY PUDLAK SYNDROME PROTEIN-INTERACTING PROTEINS AND METHODS OF USE THEREOF

	HPS (forward)	HPS (reverse)
14-3-3 eta	-	+
Hrs	-	+
BMK1 alpha	-	+
CDK2	-	+
Nuclear factor NF90	-	+
Atrophin-1	-	+
DGS-1	-	+
HPIP-1 (cg49368.b1, cg49367.h11, cg49424.c10)	+	-
HN1 homolog (cgHs2950_0)	+	-
Retinoblastoma	-	-
p27(Kip1)	-	-
RGL-2	-	-
Vector control	-	-

(57) Abstract: Provided are complexes of polypeptides which include an HPS polypeptide and an HPS-interacting polypeptides (HPSIP). The HPSIP polypeptides include 14-3-3 protein, Hrs, atrophin-1, DGS-1, nuclear factor NF90, HPIP1 and human HN1 homolog protein. Also disclosed are nucleic acids encoding the HPIP1 and human HN1 homolog protein, or derivatives, fragments and analogs thereof. Methods of screening the complexes or proteins for efficacy in treating and/or preventing certain diseases and disorders, particularly atopic diseases, autoimmune diseases, neurodegenerative disease, cancer, pigmentation disorders, platelet dysfunction and viral diseases, are also disclosed.



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MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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— *With international search report.*

*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.*

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/06518

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 C12N9/12 C07K14/47 C07K16/18 C12N15/62 C12N15/63  
 A61K38/17 G01N33/48

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 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, WPI Data, PAJ, STRAND, BIOSIS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	OH J. ET AL.: "Positional cloning of a gene for Hermansky-Pudlak syndrome, a disorder of cytoplasmic organelles" NATURE GENETICS, vol. 14, no. 3, November 1996 (1996-11), pages 300-306, XP000900545	16, 17, 31
A	<p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	1-15, 18, 28-30, 32

Further documents are listed in the continuation of box C.  Patent family members are listed in annex.

° Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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.</p> <p>"&amp;" document member of the same patent family</p>
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Date of the actual completion of the international search	Date of mailing of the international search report
30 August 2000	13/09/2000

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	Schönwasser, D

INTERNATIONAL SEARCH REPORT

Int. tional Application No  
PCT/US 00/06518

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	OH J. ET AL.: "The Hermansky-Pudlak syndrome (HPS) protein is part of a high molecular weight complex involved in biogenesis of early melanosomes" HUMAN MOLECULAR GENETICS, vol. 9, no. 3, 12 February 2000 (2000-02-12), pages 375-385, XP000929687	16,17,31
P,A	figure 1	1-15,18, 28-30,32
A	SWANK R.T. ET AL.: "Mouse Models of Hermansky Pudlak Syndrome: A Review" PIGMENT CELL RESEARCH, vol. 11, no. 2, April 1998 (1998-04), pages 60-80, XP000925811 the whole document	1-18, 28-32
A	NCI-CGAP: "National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index <a href="http://www.ncbi.nlm.nih.gov/ncicgap/qc80d09.x1">http://www.ncbi.nlm.nih.gov/ncicgap/qc80d09.x1</a> Soares_placenta_8to9weeks_2NbHP8to9W Homo sapiens cDNA clone IMAGE:1715921 3', mRNA sequence" EMBL DATABASE ENTRY AI151537; ACCESSION NO. AI151537, 1 October 1998 (1998-10-01), XP002146019	19-27
P,A	SUGANO S. ET AL.: "Homo sapiens cDNA FLJ20530 fis, clone KAT10776" EMBL DATABASE ENTRY AK000537; ACCESSION NO. AK000537, 22 February 2000 (2000-02-22), XP002146020	19-27
P,A	DE 198 18 619 A (METAGEN GES. FÜR GENOMFORSCHUNG) 28 October 1999 (1999-10-28) SEQ ID NO:7; SEQ ID NO:63	19-27
A	WO 98 46757 A (GENETICS INST) 22 October 1998 (1998-10-22) SEQ ID NO:11; SEQ ID NO:12	19-27

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 32 (incomplete)

Present claim 32 relates to a method of treating or preventing a disease or disorder involving an extremely large number of possible molecules that modulate the function of a defined HSP containing complex. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of said molecules. In the present case, the claim so lacks support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claim which appear to be supported and disclosed, namely those parts relating to said molecules as defined on page 3, lines 19 to 25; page 5, line 13 to page 6, line 10; page 16, line 19 to page 17, line 3; page 36, lines 17 to 23; page 27, lines 25 to 27; page 38, lines 2 to 21; page 39, line 10 to page 40, line 2 and page 39, lines 8 to 14.

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

Information on patent family members

Int. l. Application No

PCT/US 00/06518

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19818619 A	28-10-1999	WO 9954447 A	28-10-1999
WO 9846757 A	22-10-1998	AU 7142498 A	11-11-1998
		EP 0977851 A	09-02-2000