



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C12N 15/55, 9/16, A61K 38/46, C12Q 1/68, C12N 15/70, 1/21	A3	(11) International Publication Number: WO 99/09182 (43) International Publication Date: 25 February 1999 (25.02.99)
(21) International Application Number: PCT/US98/16983 (22) International Filing Date: 17 August 1998 (17.08.98) (30) Priority Data: 08/916,901 21 August 1997 (21.08.97) US (63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application US 08/916,901 (CIP) Filed on 21 August 1997 (21.08.97) (71) Applicant (for all designated States except US): INCYTE PHARMACEUTICALS, INC. [US/US]; 3174 Porter Drive, Palo Alto, CA 94304 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): HILLMAN, Jennifer, L. [US/US]; 230 Monroe Drive #12, Mountain View, CA 94040 (US). LAL, Preeti [IN/US]; 2382 Lass Drive, Santa Clara, CA 95054 (US). CORLEY, Neil, C. [US/US]; 1240 Dale Avenue #30, Mountain View, CA 94040 (US). SHAH, Purvi [IN/US]; 1608 Queen Charlotte Drive #5, Sunnyvale, CA 94087 (US).	(74) Agents: BILLINGS, Lucy, J. et al.; 3174 Porter Drive, Palo Alto, CA 94304 (US). (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> (88) Date of publication of the international search report: 20 May 1999 (20.05.99)	
(54) Title: RAB PROTEINS <pre> 9 18 27 36 45 54 CCC ACG CGT CCG CGC GGC GCT GCG GGT AGG AGC CGG GTT GCG GGA GAC CCC AGG 63 72 81 90 99 108 TTC GGT TGG GAT TCC CAG CCA GAA CGG AGC TTA AGC CGG GCA GGC GAG CGA ATG 117 126 135 144 153 162 ACG GAG TAG CGA GCT GCA CGG CGG CGT GCT GCG CTG TTG AGG ACG CTG TCC CGC 171 180 189 198 207 216 GCG CTC CCA GGC CGC CCC GAG GCT TGG GGT CTT CGA AGG ATA ATC GGC GCC CGG 225 234 243 252 261 270 GGC CGA ACA GCG GGG GCA CAC GGG GCG CTG CCG AAG TGC AAG GCC ACG GCC AGA 279 288 297 306 315 324 GCT CGA GCC CGA CGC GCT GTC TGG AGT CGT AGG TTG GCG CCG TTT GGG GTC GGG 333 342 351 360 369 378 GTC TGA GGC TTG GGC GCT GCC TGG GCC GAG CGG AGA TCG GGG TTT GCC TCC CGT </pre>		
(57) Abstract The invention provides three human Rab proteins (RABP) and polynucleotides which identify and encode RABP. The invention also provides expression vectors, host cells, agonists, antibodies and antagonists. The invention also provides methods for treating disorders associated with expression of RABP.		

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/16983

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C12N15/55 C12N9/16 A61K38/46 C12Q1/68 C12N15/70
C12N1/21

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 A61K C12Q

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	VESA M. OLKKONEN ET AL.: "Molecular cloning and subcellular localization of three GTP-binding proteins of the rab subfamily" JOURNAL OF CELL SCIENCE, vol. 106, no. 4, 1993, pages 1249-1261, XP002085483 see page 1253, left-hand column, paragraph 2 - paragraph 3; figure 1 --- -/--	1-14,17, 18,21,22

☒ 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

26 November 1998

Date of mailing of the international search report

04.03.99

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/16983

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Swissprot Database Entry Rb24 mouse Accession number R35290; 1 February 1994 XP002085484 see the whole document -& PHILIPPE CHAVRIER ET AL.: "The complexity of the Rab and Rho GTP-binding protein subfamilies revealed by a PCR cloning approach" GENE, vol. 112, no. 2, 15 March 1992, pages 261-264, XP002085810 AMSTERDAM NL ---	1-6, 10-14, 17,18, 21,22
A	CHEN D ET AL: "MOLECULAR CLONING OF TWO NOVEL RAB GENES FROM HUMAN MELANOCYTES" GENE, vol. 174, 26 September 1996, pages 129-134, XP002057690 see the whole document ---	1-14,17, 18,21,22
A	A. ZAHRAOUI ET AL.: "The human Rab genes encode a family of GTP-binding proteins related to yeast YPT1 and SEC4 products involved in secretion" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 264, no. 21, 25 July 1989, pages 12394-12401, XP002015899 MD US see the whole document ---	1-14,17, 18,21,22
P,X	R56u008 Database Entry Ai004609 Accession number AI004609; 15 June 1998 XP002085485 see the whole document -----	3-11,21, 22

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 98/ 16983

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:
Although claims 17,39 and 61, as far as concerning an in vivo method, and claims 18,40, and 62 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 composition.
2. ☒ 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:
Claims Nos.: 15,16,19,20,37,38,41,42,59,60,63,64.
Claims referring to agonists and antagonists have not been searched due to the very broad scope of the claims and the lack of adequate support therefor in the description.
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 continuation-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. ☒ 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.:

1-14, 17, 18, 21, 22

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

1. Claims: 1-14, 17, 18, 21, 22

Human Rab protein comprising SEQ ID NO:1, fragments and variants thereof, polynucleotide encoding the same, polynucleotide hybridising with it and use thereof for detecting a polynucleotide encoding human Rab protein, expression vector and host cell comprising it, use of the host cell for producing the polypeptide, pharmaceutical composition comprising the protein and use thereof for stimulating cell proliferation and for treating increased apoptosis, antibody binding the polypeptide.

2. Claims: 23-36, 39, 40, 43, 44

Human Rab protein comprising SEQ ID NO:3, fragments and variants thereof, polynucleotide encoding the same, polynucleotide hybridising with it and use thereof for detecting a polynucleotide encoding human Rab protein, expression vector and host cell comprising it, use of the host cell for producing the polypeptide, pharmaceutical composition comprising the protein and use thereof for stimulating cell proliferation and for treating increased apoptosis, antibody binding the polypeptide.

3. Claims: 45-58, 61, 62, 65, 66

Human Rab protein comprising SEQ ID NO:5, fragments and variants thereof, polynucleotide encoding the same, polynucleotide hybridising with it and use thereof for detecting a polynucleotide encoding human Rab protein, expression vector and host cell comprising it, use of the host cell for producing the polypeptide, pharmaceutical composition comprising the protein and use thereof for stimulating cell proliferation and for treating increased apoptosis, antibody binding the polypeptide.