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Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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23 September 2004

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.

(54) Title: DIAGNOSTICS AND THERAPEUTICS FOR DISEASES ASSOCIATED WITH HUMAN ENDOTHELIAL DIFFERENTIATION, SPHINGOLIPID G-PROTEIN-COUPLED RECEPTOR 5 (EDG5)

(57) Abstract: The invention provides a human EDG5 which is associated with the cardio-vascular diseases, disorders of the gastroenterology system, reproduction diseases, disorders of the peripheral and central nervous system and respiratory diseases. The invention also provides assays for the identification of compounds useful in the treatment or prevention of cardio-vascular diseases, disorders of the gastroenterology system, reproduction diseases, disorders of the peripheral and central nervous system and respiratory diseases. The invention also features compounds which bind to and/or activate or inhibit the activity of EDG5 as well as pharmaceutical compositions comprising such compounds.



WO 2004/044587 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/12122

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N33/566 G01N33/72 C12Q1/68

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 G01N 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)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 057 126 A (ALLELIX BIOPHARMACEUTICALS, INC.) 2 May 2000 (2000-05-02) column 18 - column 24 column 28	1-26
X	WO 00/56135 A (THE REGENTS OF THE UNIVERSITY OF CALIFORNIA) 28 September 2000 (2000-09-28) the whole document	1-26
X	US 2002/155512 A1 (RIGEL PHARMACEUTICALS, INC.) 24 October 2002 (2002-10-24) claims 1-104	1-26
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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

2 April 2004

Date of mailing of the international search report

10.03.04

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/12122

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.: 19-26
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. 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.:
1-26(all in part)

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

Continuation of Box I.2

Claims Nos.: 19-26

Present claims 19-26 relate to compounds/therapeutic agents defined by reference to a desirable characteristic or property, namely as being identifiable by the methods of claims 1-17.

The claims cover all compounds having this characteristic or property, whereas the application does not provide any support within the meaning of Art. 6 PCT and/or disclosure within the meaning of Art. 5 PCT for such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Art. 6 PCT). An attempt is made to define the compound by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the methods of screening per se.

The applicant's attention is drawn to the fact that 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. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/12122

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	TAMAMA K.-I. ET AL.: "Extracellular mechanism through the Edg family of receptors might be responsible for sphingosine-1-phosphate-induced regulation of DNA synthesis and migration of rat aortic smooth-muscle cells." BIOCHEM. J., vol. 353, 2001, pages 139-146, XP002276002 the whole document	1-26
Y	WO 01/81573 A (AVENTIS PHARMA DEUTSCHLAND GMBH) 1 November 2001 (2001-11-01) claims 18-30	1-26
A	TAKUWA Y. ET AL.: "The Edg family G protein-coupled receptors for lysophospholipids: their signaling properties and biological activities." J. BIOCHEM., vol. 131, June 2002 (2002-06), pages 767-771, XP009028822 the whole document	1-26
A	MAZURAS D. ET AL.: "Cell type-specific localization of human cardiac S1P receptors." J. HISTOCHEM. CYTOCHEM., vol. 50, no. 5, May 2002 (2002-05), pages 661-669, XP009028821 the whole document	1-26
A	TOMAN R.E. ET AL.: "Lysophospholipid receptors in the nervous system" NEUROCHEM. RES., vol. 27, no. 7-8, August 2002 (2002-08), pages 619-627, XP002260726 the whole document	1-26
P,X	WO 03/051395 A (SOLVAY PHARMACEUTICALS MBH) 26 June 2003 (2003-06-26) the whole document	1-26

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/12122

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