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Declarations 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, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, 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, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, ARIPO patent (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, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- of inventorship (Rule 4.17(iv)) for US only

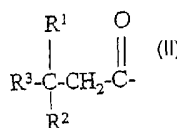
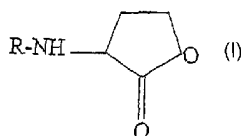
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MODULATION OF STAT ACTIVITY



(57) Abstract: The use of a compound selected from a range of compounds including quorum sensing molecules, N-acyl homoserine lactones, N-(3-oxododecanoyl)-L-homoserine lactone, inhibitors to modulate STAT activity for the treatment of a range of diseases including cancer, breast cancer, obesity, lipid metabolism disorders, immune disease, immune deficiency or immune disorders. The range of compounds also include compounds of formula (I) in which R is an acyl group of formula (II).



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INTERNATIONAL SEARCH REPORT

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PCT/B 02/04232

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61K31/275 A61K31/365 A61K38/12 A61K31/195</p>		
<p>According to International Patent Classification (IPC) or to both national classification and IPC</p>		
<p>B. FIELDS SEARCHED</p>		
<p>Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61P A61K</p>		
<p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p>		
<p>Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, EMBASE, BIOSIS</p>		
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>FRANG D A: "STAT SIGNALING IN THE PATHOGENESIS AND TREATMENT OF CANCER" MOLECULAR MEDICINE, BLACKWELL SCIENCE, CAMBRIDGE, MA, US, vol. 5, no. 7, July 1999 (1999-07), pages 432-456, XP001021603 ISSN: 1076-1551 page 436 -page 440, left-hand column page 445, left-hand column</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	1-4,11
<p><input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.</p>		
<p>° Special categories of cited documents :</p> <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>"&" document member of the same patent family</p>		
<p>Date of the actual completion of the international search 14 January 2003</p>		<p>Date of mailing of the international search report 15. 04. 03</p>
<p>Name and mailing address of the ISA 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</p>		<p>Authorized officer Loher, F</p>

INTERNATIONAL SEARCH REPORT

International Application No
PC/GB 02/04232

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TELFORD GARY ET AL: "The Pseudomonas aeruginosa quorum-sensing signal molecule N-(3-oxododecanoyl)-L-homoserine lactone has immunomodulatory activity." INFECTION AND IMMUNITY, vol. 66, no. 1, January 1998 (1998-01), pages 36-42, XP002226794 ISSN: 0019-9567 page 37, right-hand column, paragraph 7; figure 1	1-17
E	WO 02 078617 A (JOVE RICHARD ;SEBTI SAID M (US); UNIV SOUTH FLORIDA (US)) 10 October 2002 (2002-10-10) page 10, paragraph 36; claim 11	1-4,11
X,P	US 2002/068043 A1 (CHEN WEN Y ET AL) 6 June 2002 (2002-06-06) page 3, paragraph 40	1-4,11
X	MEYDAN N ET AL: "INHIBITION OF ACUTE LYMPHOBLASTIC LEUKEMIA BY A JAK-2 INHIBITOR" NATURE, MACMILLAN JOURNALS LTD. LONDON, GB, vol. 379, 15 February 1996 (1996-02-15), pages 645-648, XP002014652 ISSN: 0028-0836 the whole document	1-4,11
X	GARCIA ROY ET AL: "Constitutive activation of Stat3 by the Src and JAK tyrosine kinases participates in growth regulation of human breast carcinoma cells." ONCOGENE, vol. 20, no. 20, 2001, pages 2499-2513, XP009003627 ISSN: 0950-9232 cited in the application page 2500, right-hand column, paragraph 1 page 2502, right-hand column, line 2 - line 5 page 2505, right-hand column, paragraph 1; figure 1	1-4,11

INTERNATIONAL SEARCH REPORT

International Application No

PCT/AB 02/04232

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TURKSON JAMES ET AL: "STAT proteins: Novel molecular targets for cancer drug discovery." ONCOGENE, vol. 19, no. 56, 2000, pages 6613-6626, XP009003626 ISSN: 0950-9232 cited in the application page 6619, right-hand column, paragraph 2 page 6620, left-hand column, paragraph 1 - paragraph 2	1-4,11
X	--- BROMBERG JACQUELINE F ET AL: "Stat3 as an oncogene." CELL, vol. 98, no. 3, 6 August 1999 (1999-08-06), pages 295-303, XP002226795 ISSN: 0092-8674 cited in the application page 295, right-hand column, line 23 - line 31	1-4,11
X	--- NIELSEN ET AL: "Constitutive activation of a slowly migrating isoform of Stat3 in mycosis fungoides: tyrphostin AG490 inhibits Stat3 activation and growth of mycosis fungoides tumor cell lines" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE. WASHINGTON, US, vol. 94, no. 13, June 1997 (1997-06), pages 6764-6769, XP002143939 ISSN: 0027-8424 page 6767, left-hand column, last paragraph - paragraph R	1-4,11
X	--- WO 00 44774 A (UNIV SOUTH FLORIDA) 3 August 2000 (2000-08-03) figure 7; examples 1-7,9	1-4,11
X	--- WO 00 55128 A (HSC RES DEV LP ;ROIFMAN CHAIM M (CA); YISSUM RES DEV CO (IL); GAZI) 21 September 2000 (2000-09-21) page 5, line 11 - line 26	1-4,11
X	--- WO 00 10981 A (HUGHES INST ;UCKUN FATIH M (US); MAHAJAN SANDEEP (US); NAVARA CHRI) 2 March 2000 (2000-03-02) claims 18-20,30-32	1-4,11
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INTERNATIONAL SEARCH REPORT

International Application No
PCT/B 02/04232

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>KIRKEN R A ET AL: "Tyrphostin AG490 selectively inhibits activation of the JAK3/STAT5/MAPK pathway and rejection of rat heart allografts." TRANSPLANTATION PROCEEDINGS, vol. 33, no. 1-2, February 2001 (2001-02), page 95 XP002226796 XVIII International Congress of the Transplantation Society; Rome, Italy; August 29-September 01, 2000 ISSN: 0041-1345 the whole document</p> <p style="text-align: center;">-----</p>	1-4,11

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 02/04232

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:
see FURTHER INFORMATION sheet PCT/ISA/210

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:
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.:
1-17 (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

Continuation of Box I.1

Although claims 1-3 are directed to a scientific theory, the search has been carried out and based on the alleged effects of the scientific theory.

Although claims 4-10 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 compound/composition.

Continuation of Box I.1

Rule 39.1(i) PCT - Scientific theory

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

Continuation of Box I.2

Present claims 4-6, 11-13 relate to an extremely large number of possible compounds. In the present case a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which are disclosed in the examples and closely related homologous compounds.

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. Claims: 1-17 (partially)
2. Claims: 1-17 (partially)
3. Claims: 1-17 (partially)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 02/04232

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 02078617	A	10-10-2002	WO 02078617 A2	10-10-2002
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			EP 1268803 A2	02-01-2003
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			US 2001044442 A1	22-11-2001
			US 2002042513 A1	11-04-2002