Title: PYRROLO [2,3-D] PYRIMIDINE COMPOUNDS FOR TREATING TRANSPLANT REJECTION

Abstract: A method of treating or preventing chronic organ transplant rejection comprising administering a compound of the formula (I) wherein R1, R2 and R3 are as defined above.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 A61K31/519 A61P37/06

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 A61K A61P

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, CHEM ABS Data, WPI Data, EMBASE, BIOSIS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>X</td>
<td>CHANGELIAN, PAUL S. ET AL: &quot;Prevention of Organ Allograft Rejection by a Specific Janus Kinase Inhibitor&quot; SCIENCE (WASHINGTON, DC, UNITED STATES), 302, 875-878 CODEN: SCIEAS; ISSN: 0036-8075, 5646, XP008044166 abstract figures 1-3 page 875, right-hand column, lines 7-19 page 876, middle column, lines 12-22 - right-hand column page 877, middle column, lines 6-8,25-29 page 877, right-hand column, last paragraph - page 878, middle column, last paragraph ----- -/--</td>
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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 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 publication or other special reason (as specified)
  * "O" document referring to a oral disclosure, use, exhibition or other means
  * "P" document published prior to the international filing date but later than the priority date claimed

**Date of the actual completion of the international search**

10 March 2005

**Date of mailing of the international search report**

19.07.2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk
Tel. (+31-70) 349-2040, Tx. 31 651 epo nl, Fax (+31-70) 349-3916

Authorized officer

Bazzanini, R
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<td>X</td>
<td>BORIE, DOMINIC C. ET AL: &quot;JAK3 inhibition as a new concept for immune suppression&quot; CURRENT OPINION IN INVESTIGATIONAL DRUGS (THOMSON CURRENT DRUGS), 4(11), 1297-1303 CODEN: COIDAZ; ISSN: 1472-4472, 2003, XP008044170 abstract</td>
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<td>US 2001/053782 A1 (BLUMENKOPF TODD A ET AL) 20 December 2001 (2001-12-20) claims 1-26</td>
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<td>P,X</td>
<td>WO 2004/047843 A (PFIZER PRODUCTS INC; CHANGELIAN, PAUL, STEVEN) 10 June 2004 (2004-06-10) the whole document</td>
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INTERNATIONAL SEARCH REPORT

Observations where certain claims were found unsearable (Continuation of item 2 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. [X] Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

   Although claims 1, 14 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.

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:

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).

Observations where unity of invention is lacking (Continuation of item 3 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. [X] 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.:

   17 (partially), 1, 14

Remark on Protest

[ ] The additional search fees were accompanied by the applicant’s protest.

[ ] No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (2)) (January 2004)
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1, 14 (completely), 17 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of chronic heart transplant rejection in a mammal.

2. claims: 2 (completely), 17 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of chronic lung transplant rejection in a mammal.

3. claims: 3 (completely), 17 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of chronic liver transplant rejection in a mammal.

4. claims: 4 (completely), 17 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of chronic kidney transplant rejection in a mammal.

5. claims: 5 (completely), 17 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of chronic pancreas transplant rejection in a mammal.

6. claims: 6 (completely), 17 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of chronic small-intestine transplant rejection in a mammal.

7. claims: 7 (completely), 17 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of chronic uterus transplant rejection in a mammal.

8. claims: 8 (completely), 17 (partially)
Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of chronic joints transplant
rejection in a mammal.

9. claims: 9 (completely), 17 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of chronic bone marrow transplant
rejection in a mammal.

10. claims: 10 (completely), 17 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of chronic limb transplant rejection
in a mammal.

11. claims: 11 (completely), 17 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of chronic cornea transplant
rejection in a mammal.

12. claims: 12 (completely), 17 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of chronic skin transplant rejection
in a mammal.

13. claim: 13 (completely)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of chronic cellular transplant
rejection in a mammal.

14. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of acute or hyperacute heart
transplant rejection in a mammal.

15. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of acute or hyperacute lung
transplant rejection in a mammal.

16. claim: 15 (partially)
Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of acute or hyperacute liver transplant rejection in a mammal.

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17. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of acute or hyperacute kidney transplant rejection in a mammal.

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18. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of acute or hyperacute pancreas transplant rejection in a mammal.

---

19. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of acute or hyperacute small-intestine transplant rejection in a mammal.

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20. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of acute or hyperacute uterus transplant rejection in a mammal.

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21. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of acute or hyperacute joints transplant rejection in a mammal.

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22. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of acute or hyperacute bone marrow transplant rejection in a mammal.

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23. claim: 15 (partially)

Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the treatment or prevention of acute or hyperacute limb transplant rejection in a mammal.

---
24. claim: 15 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of acute or hyperacute cornea
transplant rejection in a mammal.

25. claim: 15 (partially)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of acute or hyperacute skin
transplant rejection in a mammal.

26. claim: 16 (completely)
   Use of pyrrolo[2,3-d]pyrimidines of formula (I) for the
treatment or prevention of acute or chronic graft versus
host disease (GVHD) in a mammal.
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