

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
3 January 2002 (03.01.2002)

PCT

(10) International Publication Number  
**WO 02/000641 A3**

(51) International Patent Classification<sup>7</sup>: **C07D 333/00**,  
333/60, A61K 31/381, A61P 29/00

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(21) International Application Number: PCT/US01/14855

(22) International Filing Date: 14 June 2001 (14.06.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/214,566 28 June 2000 (28.06.2000) US

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(81) Designated States (*national*): 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, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:  
29 August 2002

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: SPLA2 INHIBITORS

(57) Abstract: A class of novel benzo(b)thiophene is disclosed together with the use of such compounds for inhibiting sPLA<sub>2</sub> mediated release of fatty acids for treatment of Inflammatory Diseases such as septic shock.



**WO 02/000641 A3**

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 01/14855

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D333/00 C07D333/60 A61K31/381 A61P29/00

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 C07D

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, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                            | Relevant to claim No.              |
|------------|---------------------------------------------------------------------------------------------------------------|------------------------------------|
| X          | GB 2 024 220 A (CIBA GEIGY AG)<br>9 January 1980 (1980-01-09)                                                 | 1-6,<br>11-15,<br>19-25,<br>27, 28 |
| Y          | page 1, formula (I)<br><br>page 1, line 16, 17, 60<br>page 2, line 4<br>examples 1-6<br><br>-----<br><br>-/-- | 1-28                               |



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Date of the actual completion of the international search

28 May 2002

Date of mailing of the international search report

06/06/2002

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/14855

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                         | Relevant to claim No. |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| L          | EP 1 016 660 A (SHIONOGI & CO)<br>5 July 2000 (2000-07-05)<br>page 2, line 22,24,25<br>page 2, formula (I)<br>page 3, line 18,19,22,27,28,34,35<br>page 4, line 5<br>page 5, line 17,18,25,28<br>page 10, Compds. No. 3-17 | 1-28                  |
| Y          | & WO 99 15502 A 1 April 1999 (1999-04-01)<br>-----                                                                                                                                                                         | 1-28                  |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/14855

| Patent document<br>cited in search report |   | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|-------------------------------------------|---|---------------------|----------------------------|---------------------|
| GB 2024220                                | A | 09-01-1980          | CH 634840 A5               | 28-02-1983          |
|                                           |   |                     | AR 231540 A1               | 28-12-1984          |
|                                           |   |                     | AT 392787 B                | 10-06-1991          |
|                                           |   |                     | AT 171483 A                | 15-11-1990          |
|                                           |   |                     | AT 374199 B                | 26-03-1984          |
|                                           |   |                     | AT 451579 A                | 15-08-1983          |
|                                           |   |                     | AT 373597 B                | 10-02-1984          |
|                                           |   |                     | AT 451679 A                | 15-06-1983          |
|                                           |   |                     | AT 373598 B                | 10-02-1984          |
|                                           |   |                     | AT 451779 A                | 15-06-1983          |
|                                           |   |                     | AU 531535 B2               | 25-08-1983          |
|                                           |   |                     | AU 4850979 A               | 07-02-1980          |
|                                           |   |                     | BE 877339 A4               | 28-12-1979          |
|                                           |   |                     | CA 1125761 A1              | 15-06-1982          |
|                                           |   |                     | CY 1288 A                  | 05-07-1985          |
|                                           |   |                     | DD 144544 A6               | 22-10-1980          |
|                                           |   |                     | DE 2924496 A1              | 17-01-1980          |
|                                           |   |                     | DK 274279 A ,B,            | 30-12-1979          |
|                                           |   |                     | ES 481936 A2               | 16-06-1980          |
|                                           |   |                     | FI 792011 A                | 30-12-1979          |
|                                           |   |                     | FR 2429792 A2              | 25-01-1980          |
|                                           |   |                     | GR 82335 A1                | 13-12-1984          |
|                                           |   |                     | HK 42585 A                 | 07-06-1985          |
|                                           |   |                     | HU 181663 B                | 28-10-1983          |
|                                           |   |                     | IE 48767 B1                | 15-05-1985          |
|                                           |   |                     | IL 57684 A                 | 15-06-1983          |
|                                           |   |                     | IT 1164125 B               | 08-04-1987          |
|                                           |   |                     | JP 1588412 C               | 19-11-1990          |
|                                           |   |                     | JP 2015549 B               | 12-04-1990          |
|                                           |   |                     | JP 55009075 A              | 22-01-1980          |
|                                           |   |                     | MY 21285 A                 | 31-12-1985          |
|                                           |   |                     | NL 7905084 A               | 03-01-1980          |
|                                           |   |                     | NO 792178 A ,B,            | 03-01-1980          |
|                                           |   |                     | NZ 190868 A                | 13-07-1981          |
|                                           |   |                     | PL 216376 A3               | 24-03-1980          |
|                                           |   |                     | PL 216377 A3               | 24-03-1980          |
|                                           |   |                     | PL 216378 A3               | 24-03-1980          |
|                                           |   |                     | PT 66412 A ,B              | 01-05-1977          |
|                                           |   |                     | SE 445737 B                | 14-07-1986          |
|                                           |   |                     | SE 7905631 A               | 30-12-1979          |
|                                           |   |                     | SG 15985 G                 | 16-08-1985          |
|                                           |   |                     | US 4396621 A               | 02-08-1983          |
|                                           |   |                     | ZA 7903230 A               | 25-06-1980          |
| EP 1016660                                | A | 05-07-2000          | AU 8998298 A               | 12-04-1999          |
|                                           |   |                     | EP 1016660 A1              | 05-07-2000          |
|                                           |   |                     | US 6225336 B1              | 01-05-2001          |
|                                           |   |                     | WO 9915502 A1              | 01-04-1999          |