

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
15 August 2002 (15.08.2002)

PCT

(10) International Publication Number
WO 02/062750 A1

(51) International Patent Classification⁷: **C07C 317/50**,
323/65, 317/48, 323/63, 323/43, 317/22, 317/36, 317/46,
317/32, 317/44, C07D 213/71, 213/70, 233/84, A61K
31/4402, 31/18, 31/16, 31/435, A61P 37/02, 37/08, 29/00,
17/06

(21) International Application Number: PCT/US02/03672

(22) International Filing Date: 7 February 2002 (07.02.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/267,375 8 February 2001 (08.02.2001) US
60/292,600 22 May 2001 (22.05.2001) US

(71) Applicant: **SCHERING CORPORATION** [US/US];
Patent Department - K-6-1 1990, 2000 Galloping Hill
Road, Kenilworth, NJ 07033-0530 (US).

(72) Inventors: **KOZLOWSKI, Joseph, A.**; 1066 Stuart Road,
Princeton, NJ 08540 (US). **SHIH, Neng-Yang**; 1 Maple
Drive, North Caldwell, NJ 07006 (US). **LAVEY, Brian, J.**;
25 Hickory Place, Apt. H-10, Chatham, NJ 07928 (US).
RIZVI, Razia, K.; 22 Tomar Court, Bloomfield, NJ 07003
(US). **SHANKAR, Bandarpalle, B.**; 1124 Van Arsdale
Drive, Branchburg, NJ 08853 (US). **SPITLER, James,
M.**; 316 Wells Street, Westfield, NJ 07090 (US). **TONG,
Ling**; 8 Hemlock Circle, Warren, NJ 07059 (US). **WOLIN,
Ronald**; 16309 Los Rosales Street, San Diego, CA 92127
(US). **WONG, Michael, K.**; 999 Hidden Lake Drive, Apt.
3D, North Brunswick, NJ 08902 (US).

(74) Agent: **HADAD, Henry, S.**; Schering-Plough Corpora-
tion, Patent Department - K-6-1 1990, 2000 Galloping Hill
Road, Kenilworth, NJ 07033-0530 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ,
DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, HR, HU,
ID, IL, IN, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LU, LV,
MA, MD, MG, MK, MN, MX, MZ, NO, NZ, PH, PL, PT,
RO, RU, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
UZ, VN, YU, ZA, ZM.

(84) Designated States (*regional*): 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, 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, GQ, GW, ML, MR,
NE, SN, TD, TG).

Declarations under Rule 4.17:

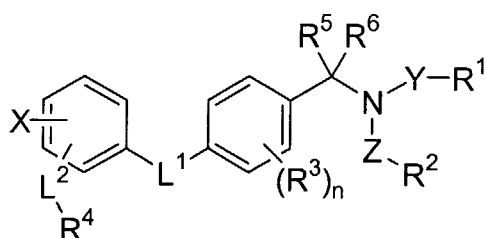
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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: CANNABINOID RECEPTOR LIGANDS



(I)

(57) Abstract: There are disclosed compounds of the formula (I) a prodrug thereof, or a pharmaceutically acceptable salt, solvate or stereoisomer of the compound or of said prodrug; which exhibit anti-inflammatory and immunomodulatory activity. Also disclosed are pharmaceutical compositions containing said compounds and methods of using the compounds for the treatment of various diseases and conditions.



WO 02/062750 A1