

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/011657 A3

(51) International Patent Classification⁷: **C07D 239/42**,
241/26, A61K 31/497, 31/506, A61P 3/06

(74) Agents: **ROTH, Carol, J.** et al.; Seed Intellectual Property
Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle,
Washington 98104-7092 (US).

(21) International Application Number:
PCT/US2004/024658

(22) International Filing Date: 29 July 2004 (29.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/491,095 30 July 2003 (30.07.2003) US

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): 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, NA, 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, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(71) Applicant (for all designated States except US): **XENON
PHARMACEUTICALS INC.** [CA/CA]; 3650 Gilmore
Way, Burnaby, British Columbia V5G 4W8 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SVIRIDOV, Ser-
guei** [CA/CA]; 1904-5885 Olive Avenue, Burnaby, British
Columbia V5H 4N8 (CA). **KODUMURU, Vishnu-
murthy** [CA/CA]; 211-6577 Royal Oak Avenue, Burnaby,
British Columbia V5H 3P3 (CA). **LIU, Shifeng** [CA/CA];
15-2615 Fortress Drive, Port Coquitlam, British Columbia
V3C 6E8 (CA). **ABREO, Melwyn** [US/US]; 3373 Ar-
magosa Way, Jamul, California 91932 (US). **WINTHER,
Michael D.** [CA/CA]; 1935 West 4th Avenue, Vancouver,
British Columbia V6J 2K1 (CA). **GSCHWEND, Heinz
W.** [US/US]; 161 Meadowcroft Way, Santa Rosa, Califor-
nia 95403 (US). **KAMBOJ, Rajender** [CA/CA]; 5809
Sperling Avenue, Burnaby, British Columbia V5E 2T6
(CA). **SUN, Shaoyi** [CA/CA]; #407-1029 East Broadway,
Vancouver, British Columbia V5T 1Y8 (CA). **HOLLA-
DAY, Mark, W.** [US/US]; 11371 Woodcraft Way, San
Diego, California 92131 (US). **LI, Wenbao** [CN/US];
11674 Castile Way, San Diego, California 92128 (US).
TU, Chi [US/US]; 5269 Quaker Hill Lane, San Diego,
California 92130 (US).

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

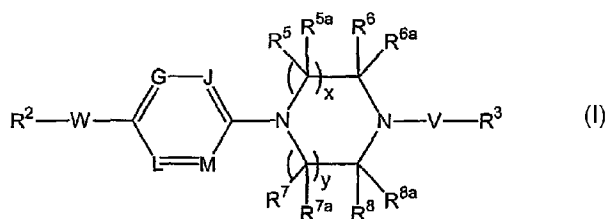
Published:

— 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

(88) Date of publication of the international search report:
24 March 2005

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

(54) Title: PIPERAZINE DERIVATIVES AND THEIR USE AS THERAPEUTIC AGENTS



(57) Abstract: Methods of treating an SCD-mediated disease or condition in a mammal, preferably a human, are disclosed, wherein the methods comprise administering to a mammal in need thereof a compound of formula (I): where G, J, L, M, x, y, W, V, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹ and R¹² are defined herein. Pharmaceutical compositions comprising the compounds of formula (I) are also disclosed.