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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/087158 A2

(51) International Patent Classification[7]: A61K 31/454, 31/538, A61P 29/00

(21) International Application Number: PCT/US2004/009339

(22) International Filing Date: 26 March 2004 (26.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/459,045 28 March 2003 (28.03.2003) US

(71) Applicant *(for all designated States except US)*: **ACADIA PHARMACEUTICALS INC.** [US/US]; 3911 Sorrento Valley Boulevard, San Diego, CA 92121-1402 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **DAVIS, Robert, R.** [US/US]; 13272 Glencliff Way, San Diego, CA 92130 (US). **VANOVER, Kimberly** [US/US]; 13066 Candela Place, San Diego, CA 92130 (US). **RODRIGUEZ, Mario** [US/US]; 4235 Kaula Place, Lihue, HI 96766 (US).

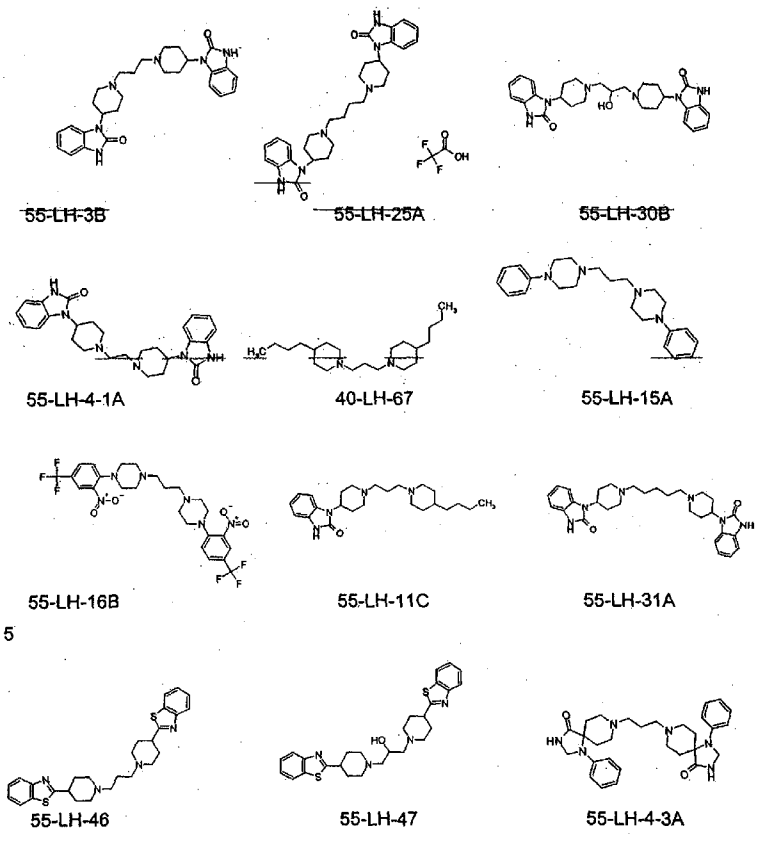
(74) Agent: **HART, Daniel**; Knobbe, Martens, Olson & Bear, LLP, 2040 Main Street, 14th Floor, Irvine, CA 92614 (US).

(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.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH,

[Continued on next page]

(54) Title: MUSCARINIC M1 RECEPTOR AGONISTS FOR PAIN MANAGEMENT



(57) Abstract: Disclosed herein are compounds and methods for treating chronic neuropathic pain. It has been discovered that compounds that selectively interact with a muscarinic receptor subtype are effective in treating neuropathic pain. Specifically, compounds that selectively interact with the M1 muscarinic receptor subtype may be used.

WO 2004/087158 A2

GM, KE, LS, MW, MZ, 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).

Published:

— *without international search report and to be republished upon receipt of that report*

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.