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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 December 2005 (08.12.2005)

PCT

(10) International Publication Number
WO 2005/115462 A1

(51) International Patent Classification[7]: A61K 45/00, 31/439, 31/167, 31/137, A61P 11/00, 11/06, 11/08

(21) International Application Number: PCT/EP2005/005836

(22) International Filing Date: 31 May 2005 (31.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
P200401312 31 May 2004 (31.05.2004) ES

(71) Applicant *(for all designated States except US)*: **ALMIRALL PRODESFARMA S.A.** [ES/ES]; Ronda del General Mitre 151, E-08022 Barcelona (ES).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **GRAS ESCARDO, Jordi** [ES/ES]; c/ Roger de flor 3, Atico, E-08018 Barcelona (ES). **LLENAS CALVO, Jesus** [ES/ES]; Ganduxer 39, 5° 2ª, E-08021 Barcelona (ES). **RYDER, Hamish** [GB/ES]; Pasaje Barnadas, 18, E-08190 La Floresta Sant Cugat del Vallés (Barcelo, na) (ES). **ORVIZ DIAZ, Pio** [ES/ES]; Avda. Piscina 37, E-08198 Saint Cugat del Vallès (Barcelona) (ES).

(74) Agent: **R C SRINIVASAN**; J. A. Kemp & Co, 14 South Square, Gray's Inn, London WC1R 5JJ (GB).

(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, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, 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, 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, IS, IT, LT, 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:
— *with international search 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.

(54) Title: COMBINATIONS COMPRISING ANTIMUSCARINIC AGENTS AND PDE4 INHIBITORS

(57) Abstract: A combination which comprises (a) a PDE4 inhibitor and (b) an antagonist of M3 muscarinic receptors which is 3(R)-(2-hydroxy-2,2-dithien-2-ylacetoxy)-1(3-phenoxypropyl)-1-azoniabicyclo[2.2.2]octane, in the form of a salt having an anion X, which is a pharmaceutically acceptable anion of a mono or polyvalent acid.

WO 2005/115462 A1