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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
11 February 2010 (11.02.2010)

PCT

(10) International Publication Number
WO 2010/015324 A1

(51) **International Patent Classification**:
C07D 453/02 (2006.01) ***A61P 11/00*** (2006.01)
A61K 31/439 (2006.01)

(21) **International Application Number**:
PCT/EP2009/005272

(22) **International Filing Date**:
21 July 2009 (21.07.2009)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
08162066.8 8 August 2008 (08.08.2008) EP

(71) **Applicant** *(for all designated States except US)*: **CHIESI FARMACEUTICI S.P.A.**; Via Palermo, 26/A, I-43100 Parma (IT).

(72) **Inventors; and**
(75) **Inventors/Applicants** *(for US only)*: **AMARI, Gabriele** [IT/IT]; Via Palermo, 26/A, I-43100 Parma (IT). **DEL-CANALE, Maurizio** [IT/IT]; Via Palermo 26/A, I-43100 Parma (IT).

(74) **Agents**: **MINOJA, Fabrizio,** et al.; Bianchetti Bracco Minoja S.R.L., Via Plinio, 63, I-20129 Milano (IT).

(81) **Designated States** *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

WO 2010/015324 A1

(54) **Title**: QUINUCLIDINE CARBONATE DERIVATIVES AND MEDICINAL COMPOSITION THEREOF

(57) **Abstract**: The invention relates to quinuclidine carbonate derivatives acting as muscarinic receptor antagonists, to methods of preparing such derivatives, to compositions comprising them and therapeutic use thereof.