

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
8 June 2006 (08.06.2006)

PCT

(10) International Publication Number
WO 2006/058723 A1

(51) International Patent Classification:

C07D 495/22 (2006.01) A61P 11/06 (2006.01)
A61K 31/519 (2006.01)

(21) International Application Number:

PCT/EP2005/012773

(22) International Filing Date:

30 November 2005 (30.11.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

P200402877 30 November 2004 (30.11.2004) ES

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

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PAGES SANTACANA, Lluís, Miquel** [ES/ES]; C/ Calabria 242, 1° 3a, E-08029 Barcelona (ES). **TALTAVULL MOLL, Joan** [ES/ES]; C/ Joan Güell, 134, 2° 3a, E-08028 Barcelona (ES). **GRACIA FERRER, Jordi** [ES/ES]; Plaza de las Navas 5, 4° 2a, E-08004 Barcelona (ES).(74) Agents: **SRINIVASAN, R., C.** et al.; 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, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, 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, LV, 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

(48) Date of publication of this corrected version:

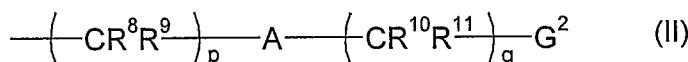
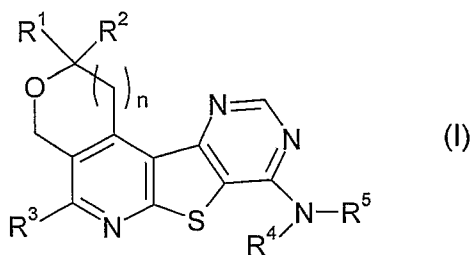
12 July 2007

(15) Information about Correction:

see PCT Gazette No. 28/2007 of 12 July 2007

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: NEW PYRIDOTHIENOPYRIMIDINE DERIVATIVES



wherein p and q are integers selected from 1, 2 and 3; A is either a direct bond or a group selected from -CONR¹²-, -NR¹²CO-, -O-, -COO-, -OCO-, -NR¹²COO-, -OCONR¹²-, -NR¹²CONR¹³-, -S-, -SO-, -SO₂-, -COS- and -SCO-; and G² is a group selected from aryl, heteroaryl or heterocyclyl; wherein the alkyl groups and the group G² are optionally substituted by one or more substituents selected from group consisting of halogen atoms and alkyl, alkoxyalkyl, arylalkyl, R¹⁴OCO-, hydroxy, alkoxy, oxo, R¹⁴R¹⁵N-CO-, -CN, -CF₃, -NR¹⁴R¹⁵-, -SR¹⁴ and -SO₂NH₂ groups; wherein the groups R⁸ to R¹⁵ are independently selected from hydrogen atoms and C₁₋₄ alkyl groups; and the pharmaceutically acceptable salts and N-oxides thereof; in the manufacture of a medicament for the treatment or prevention of a pathological condition or disease susceptible to amelioration by inhibition of phosphodiesterase 4.

(57) Abstract: Use of a pyrido[3',2':4,5]thieno[3,2-d]pyrimidine derivative of formula (I), wherein n is an integer selected from 0 or 1 R¹ and R² are independently selected from hydrogen atoms and C₁₋₄ alkyl groups R³ represents a group selected from alkyl, amino, monoalkylamino, dialkylamino, aryl, heteroaryl and saturated N-containing heterocyclyl groups bound through the nitrogen atom to the pyridine ring, all of them being optionally substituted by one or more substituents selected from the group consisting of halogen atoms and alkyl, alkoxyalkyl, arylalkyl, R⁶OCO-, alkoxy, R⁶R⁷N-CO-, -CN, -CF₃, -NR⁶R⁷-, -SR⁶ and -SO₂NH₂ groups wherein R⁶ and R⁷ are independently selected from hydrogen atoms and C₁₋₄ alkyl groups R⁴ and R⁵ are independently selected from the group consisting of hydrogen atoms, alkyl groups and groups of formula (II):