



(51) International Patent Classification:

C07D 495/04 (2006.01) *A61P 25/00* (2006.01)
A61K 31/5025 (2006.01)

(21) International Application Number:

PCT/EP2014/054810

(22) International Filing Date:

12 March 2014 (12.03.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/779,141 13 March 2013 (13.03.2013) US

(71) Applicants: ABBVIE DEUTSCHLAND GMBH & CO.

KG [DE/DE]; Mainzer Straße 81, 65189 Wiesbaden (DE).
ABBVIE INC. [US/US]; 1 North Waukegan Road, North
Chicago, Illinois 60064 (US).

(72) Inventors: JANTOS, Katja; c/o AbbVie Deutschland

GmbH & Co. KG, Knollstr. 50, 67061 Ludwigshafen (DE).
OCHSE, Michael; c/o AbbVie Deutschland GmbH & Co.
KG, Knollstr. 50, 67061 Ludwigshafen (DE). GENESTE,
Hervé; c/o AbbVie Deutschland GmbH & Co. KG, Knoll-
str. 50, 67061 Ludwigshafen (DE). FROGETT, Jayne;
c/o AbbVie Deutschland GmbH & Co. KG, Knollstr. 50,
67061 Ludwigshafen (DE). JAKOB, Clarissa; c/o AbbVie
Inc., 1 North Waukegan Road, North Chicago, Illinois
60064 (US). DRESCHER, Karla; c/o AbbVie Deutsch-
land GmbH & Co. KG, Knollstr. 50, 67061 Ludwigshafen

(DE). DINGES, Jürgen; c/o AbbVie Inc., 1 North
Waukegan Road, North Chicago, Illinois 60064 (US).

(74) Agent: REITSTÖTTER - KINZEBACH; Im Zollhof 1,
67061 Ludwigshafen (DE).

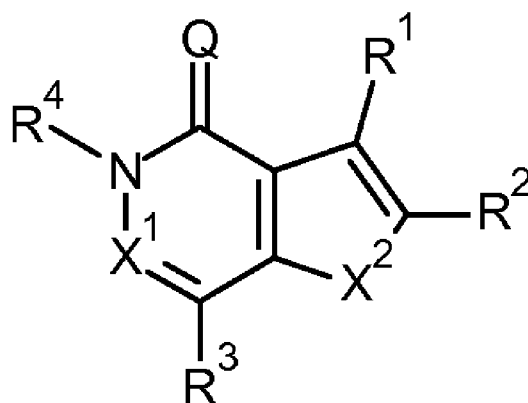
(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,
SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
TM), European (AL, 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, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Published:

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

(54) Title: NOVEL INHIBITOR COMPOUNDS OF PHOSPHODIESTERASE TYPE 10A



(I)

(57) Abstract: The present invention relates to compounds of the formula I, the N-oxides, tautomers, the prodrugs and the pharmaceutically acceptable salts thereof: (I). In formula I the variables X^1 is CH or N, X^2 is O or S and where R^1 , R^2 , R^3 , R^4 and Q are as defined in the claims. The compounds of the formula I, the N-oxides, tautomers, the prodrugs and the pharmaceutically acceptable salts thereof are inhibitors of phosphodiesterase type 10A. Thus, the invention also relates to the use of the compounds of the formula I, the N-oxides, tautomers, the prodrugs and the pharmaceutically acceptable salts thereof for the manufacture of a medicament and which thus are suitable for treating or controlling of medical disorders selected from neurological disorders and psychiatric disorders, for ameliorating the symptoms associated with such disorders and for reducing the risk of such disorders.

