

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
28 June 2007 (28.06.2007)

PCT

(10) International Publication Number
WO 2007/073296 A1

(51) International Patent Classification:

C07D 277/56 (2006.01) **A61P 1/04** (2006.01)
A61K 31/421 (2006.01) **C07D 263/34** (2006.01)
A61K 31/422 (2006.01) **C07D 277/38** (2006.01)
A61K 31/426 (2006.01) **C07D 413/12** (2006.01)
A61K 31/427 (2006.01) **C07D 417/12** (2006.01)

(74) Agent: **ASTRAZENECA AB**; Global Intellectual Property, S-151 85 Södertälje (SE).

(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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(21) International Application Number:

PCT/SE2006/001460

(22) International Filing Date:

21 December 2006 (21.12.2006)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0502907-9 23 December 2005 (23.12.2005) SE

(71) Applicant (*for all designated States except US*): **ASTRAZENECA AB** [SE/SE]; S-151 85 Södertälje (SE).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BAUER, Udo** [DE/SE]; AstraZeneca R & D Mölndal, S-431 83 Mölndal (SE). **GUSTAFSSON, Linda** [SE/SE]; AstraZeneca R & D Mölndal, S-431 83 Mölndal (SE). **SAXIN, Maria** [SE/SE]; AstraZeneca R & D Mölndal, S-431 83 Mölndal (SE). **SVENSSON, Tor** [SE/SE]; AstraZeneca R & D Mölndal, S-431 83 Mölndal (SE).

(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
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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: HETEROCYCLIC GABA-B MODULATORS

(57) Abstract: The present invention relates to novel thiazole and oxazole derivatives having a positive allosteric GABA_B receptor (GBR) modulator effect, methods for the preparation of said compounds and to their use, optionally in combination with a GABA_B agonist, for the inhibition of transient lower esophageal sphincter relaxations, for the treatment of gastroesophageal reflux disease, as well as for the treatment of functional gastrointestinal disorders and irritable bowel syndrome (IBS). The compounds are represented by the general formula (I) wherein X¹ and X² are selected from O and N or S and N and R¹, R² and Y are as defined in the description. For example, R¹ may be alkyl, alkoxy, thioalkoxy or aryl, R² may be alkoxy and Y may be a carbonylamino-linked substituent containing an aryl or heteroaryl group.



WO 2007/073296 A1