

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
24 May 2007 (24.05.2007)

PCT

(10) International Publication Number  
**WO 2007/058583 A3**

## (51) International Patent Classification:

**C07D 217/22** (2006.01) **A61P 25/28** (2006.01)  
**A61K 31/4365** (2006.01) **C07D 239/94** (2006.01)  
**A61K 31/472** (2006.01) **C07D 265/20** (2006.01)  
**A61K 31/517** (2006.01) **C07D 401/10** (2006.01)  
**A61K 31/536** (2006.01) **C07D 513/04** (2006.01)

Cambridge Science Park, Milton Road, Cambridge CB4 0QA (GB). **SYLVESTER, Mark** [US/US]; AstraZeneca Wilmington, 1800 Concord Pike, P.O. Box 15437, Wilmington, DE 19850-5437 (US).

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

## (21) International Application Number:

PCT/SE2006/001283

## (22) International Filing Date:

13 November 2006 (13.11.2006)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

60/737,327 15 November 2005 (15.11.2005) US

(71) **Applicants (for all designated States except US): ASTRAZENECA AB** [SE/SE]; S-151 85 Södertälje (SE). **ASTEX THERAPEUTICS LTD** [GB/GB]; 436 Cambridge Science Park, Milton Road, Cambridge CB4 0QA (GB).

## (72) Inventors; and

(75) **Inventors/Applicants (for US only): ALBERT, Jeffrey** [US/US]; AstraZeneca Wilmington, 1800 Concord Pike, P.O. Box 15437, Wilmington, DE 19850-5437 (US). **CHESSARI, Gianni** [IT/GB]; Astex Therapeutics, 436 Cambridge Science Park, Milton Road, Cambridge CB4 0QA (GB). **CONGREVE, Miles, Stuart** [GB/GB]; Astex Therapeutics, 436 Cambridge Science Park, Milton Road, Cambridge CB4 0QA (GB). **EDWARDS, Phil** [US/US]; AstraZeneca Wilmington, 1800 Concord Pike, P.O. Box 15437, Wilmington, DE 19850-5437 (US). **MURRAY, Christopher** [GB/GB]; Astex Therapeutics, 436 Cambridge Science Park, Milton Road, Cambridge CB4 0QA (GB). **PATEL, Sahil** [GB/GB]; Astex Therapeutics, 436

(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.

(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:**

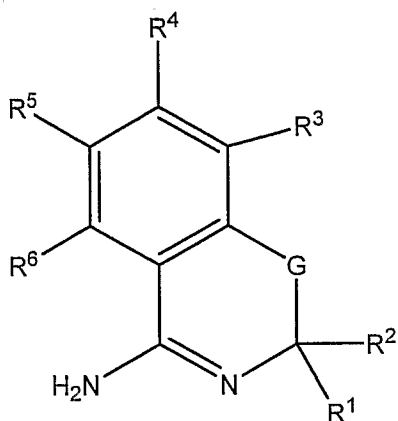
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

## (88) Date of publication of the international search report:

5 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: NOVEL 2-AMINO-HETEROCYCLES USEFUL IN THE TREATMENT OF ABETA-RELATED PATHOLOGIES



(I)

(57) **Abstract:** This invention relates to novel compounds having the structural formula I below: and to their pharmaceutically acceptable salts, compositions and methods of use. These novel compounds provide a treatment or prophylaxis of cognitive impairment, Alzheimer Disease, neurodegeneration and dementia.

WO 2007/058583 A3