

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 June 2006 (22.06.2006)

PCT

(10) International Publication Number
WO 2006/065209 A1

(51) International Patent Classification:
C07D 498/20 (2006.01) *A61P 25/00* (2006.01)
A61K 31/439 (2006.01)

Eifion [US/US]; 27 John Beal Drive, Bothwyn, PA 19061 (US).

(21) International Application Number:
PCT/SE2005/001909

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

(22) International Filing Date:
13 December 2005 (13.12.2005)

(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.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/636,362 15 December 2004 (15.12.2004) US
60/643,319 12 January 2005 (12.01.2005) US

(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).

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

(72) Inventors; and

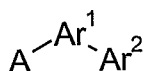
(75) Inventors/Applicants (*for US only*): **CHAPDELAINE, Marc** [US/US]; AstraZeneca Wilmington, P.O. Box 15437, Wilmington, DE 19850-5437 (US). **CHANG, Hui-Fang** [CN/US]; AstraZeneca Wilmington, P.O. Box 15437, Wilmington, DE 19850-5437 (US). **HERZOG, Keith, J.** [US/US]; AstraZeneca Wilmington, P.O. Box 15437, Wilmington, DE 19850-5437 (US). **HORCHLER, Carey** [US/US]; AstraZeneca Wilmington, P.O. Box 15437, Wilmington, DE 19850-5437 (US). **PHILLIPS,**

Published:

— with international search report

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: NICOTINIC ACETYLCHOLINE RECEPTOR LIGANDS



(57) Abstract: Acetylcholine receptor ligands of formula I wherein A, Ar¹ and Ar² are as described in the specification, diastereoisomers, enantiomers, pharmaceutically-acceptable salts, methods of making, pharmaceutical compositions containing and methods for using the same.

WO 2006/065209 A1