

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number
WO 2005/092890 A3

(51) International Patent Classification⁷: **C07D 453/02**,
A61K 31/439, A61P 25/18, 25/24, 25/26, 25/28, 25/32

(74) Agents: HEANEY, Brion, P. et al.; Millen, White, Ze-
lano & Branigan, P.C., Arlington Courthouse Plaza 1, Suite
1400, 2200 Clarendon Boulevard, Arlington, VA 22201
(US).

(21) International Application Number:
PCT/US2005/010120

(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, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, 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.

(22) International Filing Date: 25 March 2005 (25.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/555,951 25 March 2004 (25.03.2004) US
60/616,033 6 October 2004 (06.10.2004) 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, 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): MEM-
ORY PHARMACEUTICALS CORPORATION
[US/US]; 100 Philips Parkway, Montvale, NJ 07645 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): XIE, Wenge
[US/US]; 2347 Pembroke Court, Mahwah, NJ 07430
(US). HERBERT, Brian [US/US]; 3 Grandview Avenue,
Stockholm, NJ 07460 (US). SCHUMACHER, Richard
[US/US]; 16 Dorothy Drive, Monroe, NY 10950 (US).
NGUYEN, Truc, Minh [US/US]; 3 East 101st Street, Apt.
5E, New York, NY 10029 (US). MA, Jianguo [CA/US];
20C Rolling Ridge Road, Montvale, NJ 07645 (US).
GAUSS, Carla, Maria [US/US]; 4 Washington Square
Village, Apt. 5P, New York, NY 10012 (US). TEHIM,
Ashok [CA/US]; 246 N. Walnut Street, Ridgewood, NJ
07450 (US).

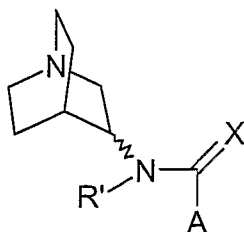
Published:

- 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:
2 February 2006

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: INDAZOLES, BENZOTHAZOLES, BENZOISOTHAZOLES, BENZISOXAZOLES, AND PREPARATION AND
USES THEREOF



(I)

(57) Abstract: The present invention relates generally to the field of ligands for
nicotinic acetylcholine receptors (nACh receptors), activation of nACh receptors,
and the treatment of disease conditions associated with defective or malfunction-
ing nicotinic acetylcholine receptors, especially of the brain. Further, this inven-
tion relates to novel compounds (e.g., indazoles and benzothiazoles), which act as
ligands for the $\alpha 7$ nACh receptor subtype, methods of preparing such compounds,
compositions containing such compounds, and methods of use thereof.