(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 May 2006 (26.05.2006)

PCT

(10) International Publication Number
WO 2006/055178 A2

(51) International Patent Classification:
A61K 39/395 (2006.01)

(21) International Application Number:
PCT/US2005/038125

(22) International Filing Date: 21 October 2005 (21.10.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/621,776	25 October 2004 (25.10.2004)	US
60/652,538	14 February 2005 (14.02.2005)	US

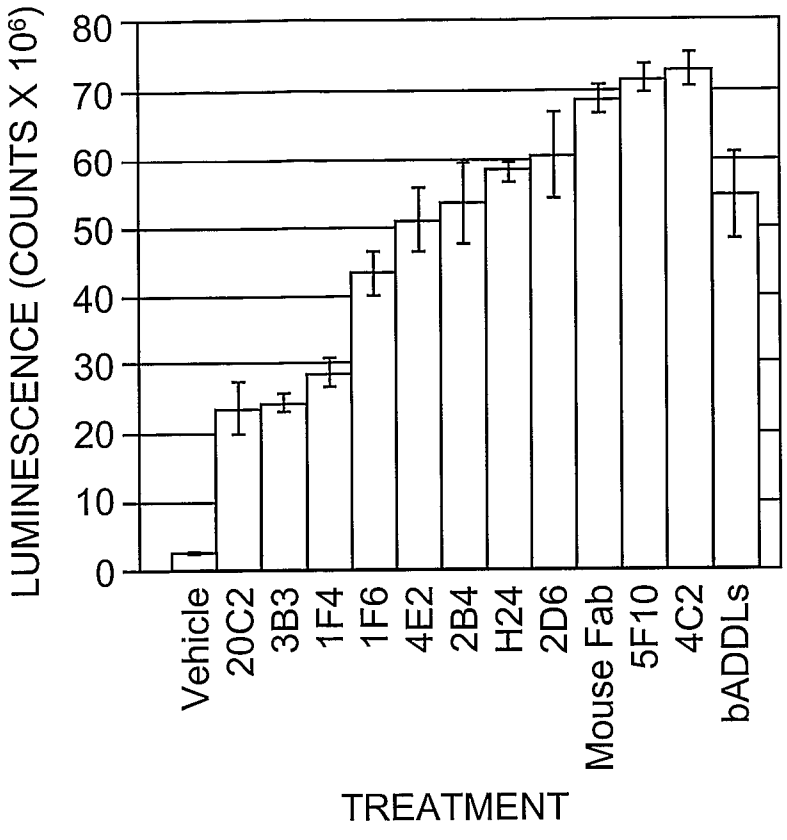
(71) Applicants *(for all designated States except US)*: **MERCK & CO., INC.** [US/US]; 126 E. Lincoln Avenue, Rahway, NJ 07065-0907 (US). **ACUMEN PHARMACEUTICALS, INC.** [US/US]; 385 Oyster Point Boulevard, Suite 9A, South San Francisco, CA 94010 (US). **NORTHWESTERN UNIVERSITY** [US/US]; 633 Clark Street, Evanston, IL 60208 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **ACTON, Paul** [US/US]; 1770 Red Bud Road, Quakertown, PA 18951 (US). **AN, Zhiqiang** [US/US]; 315 Gentry Lane, Ambler, PA 19002 (US). **BETT, Andrew, J.** [CA/US]; 1402 Oxford Circle, Lansdale, PA 19446 (US). **BREESE, Robert** [US/US]; 2360 Witchazel Drive, Quakertown, PA 18951 (US). **DODSON, Elizabeth, Chen** [US/US]; 505 Cherry Drive, Souderton, PA 18964 (US). **KINNEY, Gene** [US/US]; 4125 Justin Court, Collegeville, PA 19426 (US). **KLEIN, William** [US/US]; 1145 Chatfield Road, Winetka, IL 60093 (US). **KRAFFT, Grant, A.** [US/US]; 1309 Evergreen Court, Glenview, IL 60025 (US). **LAMBERT, Mary, P.** [US/US]; 1956 Linneman Street, Glenview, IL 60025 (US). **LIANG, Xiaoping** [CA/US]; 2054 Woodgate Lane, Collegeville, PA 19426 (US). **PRAY, Todd, Richard** [US/US]; 35 9th Avenue, Apartment 6, San Mateo, CA 94401 (US). **SHUGHRUE, Paul** [US/US]; 16 Maentel Drive, West Chester, PA 19382 (US). **STROHL, William, R.** [US/US]; 1086 Tullo Farm Road, Bridgewater, NJ 08807 (US). **WANG, Fubao**

[Continued on next page]

(54) Title: ANTI-ADDL ANTIBODIES AND USES THEREOF



(57) Abstract: The present invention relates to antibodies that differentially recognize multi-dimensional conformations of Aβ-derived diffusible ligands, also known as ADDLs. The antibodies of the invention can distinguish between Alzheimer's Disease and control human brain extracts and are useful in methods of detecting ADDLs and diagnosing Alzheimer's Disease. The present antibodies also block binding of ADDLs to neurons, assembly of ADDLs, and tauphosphorylation and are there useful in methods for the preventing and treating diseases associated with soluble oligomers of amyloid β 1-42.

WO 2006/055178 A2

[US/US]; 1418 Gentlemen's Way, Dresher, PA 19025 (US).

(74) **Agents: LICATA, Jane, Massey** et al.; Licata & Tyrrell P.C., 66 E. Main Street, Marlton, NJ 08053 (US).

(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, 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.

(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:

— *without international search report and to be republished upon receipt of that 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.