

Curriculum Vitae

**Name:** Robert William Peoples

**Education and Training:** School of Science, Purdue University  
West Lafayette, Indiana  
Degree: B.S. in Biology, May, 1983

School of Pharmacy and Pharmacal Sciences, Purdue University  
West Lafayette, Indiana  
Degrees: M.S. in Pharmacology, May, 1986  
Ph.D. in Pharmacology, August, 1989

**Professional Societies:** Research Society on Alcoholism, 1996 - present  
Society for Neuroscience, 1990 - present  
Phi Kappa Phi, National Honor Society  
Rho Chi, National Pharmacy Honor Society

**Honors and Awards:** Finalist, Jenkins-Knevel Award for Excellence in Research, 1989  
Procter and Gamble Predoctoral Fellowship, 1988 - 1989  
National Research Council Associateship, 1990 - 1993

**Professional Experience:** Teaching Assistant in Pharmacology, 1983 - 1989

National Research Council Research Associate, Section of Electrophysiology, National Institute on Alcohol Abuse and Alcoholism, 1990 - 1993

Intramural Research Training Award Fellow, Laboratory of Molecular and Cellular Neurobiology, National Institute on Alcohol Abuse and Alcoholism, 1993 - 1995

Senior Staff Fellow, Laboratory of Molecular and Cellular Neurobiology, National Institute on Alcohol Abuse and Alcoholism, 1995 - 1998

Investigator (Tenure-Track) and Acting Chief, Unit on Cellular Neuropharmacology, Laboratory of Molecular and Cellular Neurobiology, National Institute on Alcohol Abuse and Alcoholism, 1998 - 2003

Assistant Professor, Department of Biomedical Sciences, College of Health Sciences, Marquette University, 2003 - 2008

Associate Professor, Department of Biomedical Sciences, College of Health Sciences, Marquette University, 2008 - present

**Committee Service:**

**National Institutes of Health**

NIAAA Safety Committee, 1993 - 2003

NIH Tenure-Track Investigator's Committee, 2000 - 2002

NIAAA Property Board of Survey, 2000 - 2003

**Marquette University**

Life Sciences Building Research Space Subcommittee, 2006

Neuroscience Graduate Program Curriculum Committee, 2006 - present

Faculty search committee, Biomedical Sciences, 2006 - 2008

Subcommittee on postdoctoral fellows, Committee on Research, 2007

Assessment committee, Biomedical Sciences, 2007 - 2009

University Task Force on Export Controls, 2008

University Safety Network, 2007 - present

Neuroscience Recruitment Committee, 2009 - present

Biomedical Sciences research committee, 2009 - present

**Other Professional Activities:**

**National Institutes of Health**

NIH Neurobiology Interest Group, 1998 - 2003

LMCN controlled substance custodian, 2001 - 2003

**Marquette University**

Addiction Research Center, 2003 - present

Integrated Neuroscience Research Center, 2003 - present

**Journals Reviewed:**

**National Institutes of Health**

*Alcoholism: Clinical and Experimental Research*

*Biochemistry*

*Brain Research*

*Journal of Neurochemistry*

*Journal of Neurophysiology*

*Journal of Pharmacology and Experimental Therapeutics*

*Progress in Neuro-Psychopharmacology and Biological Psychiatry*

**Marquette University**

*Alcoholism: Clinical and Experimental Research*

*Biochemical Pharmacology*  
*Brain Research*  
*British Journal of Pharmacology*  
*Cellular and Molecular Life Sciences*  
*Journal of Cellular Physiology*  
*Journal of Neurochemistry*  
*Journal of Pharmacology and Experimental Therapeutics*  
*Journal of Pharmacy & Pharmacology*  
*Molecular Pharmacology*  
*Molecular and Cellular Neuroscience*  
*The Journal of Neuroscience*

**Other Review Activities:**

**Marquette University**

Expert Reviewer, Neuropharmacology & Psychopharmacology section, Faculty of 1000 Biology website, 2007 – present

Grant reviewer, NIAAA/NIH, 2010

**Grants Awarded:**

“Role of ion channel gating domains in alcohol action on the NMDA receptor”, Alcoholic Beverage Medical Research Foundation. \$50,000, 7/1/2004 to 6/30/2005.

“Alcohol sensitivity of ATP currents in hippocampus”, National Institutes of Health (R-01 program), subcontract on proposal “Sites & mechanisms of ethanol action in P2X receptors”, D. Davies, P.I. \$181,250, 7/1/2004 to 6/30/2009.

“Alcohol actions on NMDA receptor gating domains”, National Institutes of Health (R-01 program), R.W. Peoples, P.I. \$1,344,002, 4/1/2005 to 3/31/2010.

**Grants Pending:**

“Alcohol actions on NMDA receptor gating domains”, National Institutes of Health (R-01 program), R.W. Peoples, P.I. \$1,517,375, submitted 3/5/2010.

**Teaching:**

BISC 1001, Contemporary Issues in Biomedical Sciences  
BISC 7517-7518, Biomedical Systems 3 & 4  
BISC 3150, General Pathology  
BISC 4145, Human Physiology  
BIOL 8501, Cellular & Molecular Neuroscience  
BIOL 8503, Techniques in Neuroscience Research  
BIOL 8505, Advanced Survey in Neuroscience 2

Course Director, BISC 1001, 2008-2010  
Course Director, BISC 7517, 2007-2010  
Course Director, BISC 7518, 2006  
Course Director, BIOL 8501, 2008, 2010

**Ph.D. Dissertation Committees:** Phu Tran, Biological Sciences, 2006 - present  
Kurt Laha, Biological Sciences, 2006 - present  
Travis Rush, Neuroscience, 2007 - present  
Aric Madayag, Neuroscience, 2007 - present  
Xiaoqian Liu, Neuroscience, 2008 - present  
Andrew Karls, Neuroscience, 2010

**Ph.D. Dissertation Director:** Yulin Zhao, Neuroscience, 2010

**Student Interaction:** Jaclyn M. Paul, BISC Summer Research Program, 2004  
Jaclyn M. Paul, BISC 195 research project, 3 credits, fall 2004  
Jaclyn M. Paul, BISC 195 research project, 3 credits, spring 2005  
Kaitlin A. Lamb, BISC Summer Research Program, 2005  
Kaitlin A. Lamb, BISC 195 research project, 3 credits, fall 2005  
Kaitlin A. Lamb, BISC Summer Research Program, 2006  
Kaitlin A. Lamb, BISC 195 research project, 3 credits, fall 2006  
Abdelghaffar K. Salous (postbaccalaureate), laboratory research technician, 2004 – 2006  
Jorge Parodi (graduate student, University of Concepcion, Chile), visiting researcher, fall 2006  
Kaitlin A. Lamb, BISC Summer Research Program, 2007  
Kaitlin A. Lamb, BISC 195 research project, 3 credits, fall 2007  
Eric W. Anderson, BISC Summer Research Program, 2008  
Sowmya H. Subramanian (graduate student), laboratory research technician, 2008 - 2009  
Eric W. Anderson, BISC 195 research project, 3 credits, fall 2008  
Gustavo Moraga-Cid (graduate student, University of Concepcion, Chile), visiting researcher, fall 2008  
Ali Ghasemzadeh, BISC Summer Research Program, 2009  
Eric W. Anderson, BISC Summer Research Program, 2009

**Invited Presentations:** “Studies on the Site of Alcohol Action on NMDA Receptor-Channels”, American Society for Biochemistry and Molecular Biology Fall Symposium “Ethanol and Cell Signaling”, Lake Tahoe, California, October 1999

“Role of Ion Channel Gating in Alcohol Inhibition of NMDA Receptors”, Thomas Jefferson University conference “Molecular Mechanisms of Alcohol and Anesthetic Action”, Philadelphia, Pennsylvania, October 2001

“Studies on the Site and Mechanism of Alcohol Inhibition of NMDA Receptors”, Laboratory of Neurogenetics, National Institute on Alcohol Abuse and Alcoholism, December 2001

“Evidence for Sites of Alcohol Action in Regions of NMDA Receptors Regulating Ion Channel Gating”, Research Society on Alcoholism annual meeting, Fort Lauderdale, Florida, June 2003.

“Role of the Fourth Membrane-Associated Domain of the NMDA Receptor in Ion Channel Function and Alcohol Sensitivity”, Department of Biological Sciences, Marquette University, April 2004.

“Role of the Fourth Membrane-Associated Domain of the NMDA Receptor in Ion Channel Function and Alcohol Sensitivity”, Department of Pharmacology, Texas Tech University Health Sciences Center, February 2005.

“Role of NMDA Receptor Membrane-Associated Domains in Ion Channel Gating and Alcohol Action”; Milwaukee Chapter of the Society for Neuroscience, Medical College of Wisconsin, April 2008.

**Chaired Symposia:**

“Glutamate Receptors and Ethanol 2003: Recent Insights into Novel Sites of Action, Modulatory Mechanisms, and Physiological Roles”, Research Society on Alcoholism annual meeting, Fort Lauderdale, Florida, June 2003 (Co-chaired and co-organized with R. Lisa Popp, Ph.D.).

**PEER-REVIEWED PAPERS***(\*work performed at Marquette University)*

- \*59. Moraga-Cid, G., Yevenes, G.E., Figueroa, M., Bunster, M., Schmalzing, G., Peoples, R.W., and Aguayo, L.G.: Identification of a molecular site for a general anesthetic on a ligand-gated ionic channel (submitted for publication).
- \*58. Sepulveda, F., Parodi, J., Peoples, R.W., Opazo, C., and Aguayo, L.G.: Synaptotoxicity of Alzheimer beta amyloid can be explained by its membrane perforating property. *PLoS One* **5**: e11820, 2010.
- \*57. Yevenes, G., Moraga-Cid, G., Avila, A., Guzman, L., Figueroa, M., Peoples, R.W., and Aguayo, L.G.: Molecular requirements for ethanol differential allosteric modulation of ligand-gated ion channels based on selective G $\beta\gamma$  modulation. *J. Biol. Chem.* **285**: 30203-30213, 2010.
- \*56. Luo, J., Li, W., Zhao, Y., Fu, H., Ma, D.L., Tang, J., Li, C., Peoples, R.W., Li, F., Wang, Q., Huang, P., Xia, J., Pang, Y., Han, Y.: Pathologically activated neuroprotection via uncompetitive blockade of N-methyl-D-aspartate receptors with fast off-rate by novel multifunctional dimer Bis(propyl)-cognitin. *J. Biol. Chem.* **285**: 19947 - 19958, 2010.
- \*55. Salous, A., Ren, H., Lamb, K.A., Hu, X.-Q., Lipsky, R.H., and Peoples, R.W.: Differential actions of ethanol and trichloroethanol at sites in the M3 and M4 domains of the NMDA receptor NR2A subunit. *Brit. J. Pharmacol.* **158**: 1395 – 1404, 2009.
- \*54. Mechanism of bis(7)-tacrine inhibition of GABA-activated current in cultured rat hippocampal neurons. Zhou, L., Liu, Y.W., Peoples, R.W., Yang, M., Tian, X., Ai, Y.X., Pang, Y.P., Li, Z.W., Han, Y.F., Li, C.Y. *Neuropharmacol.* **57**: 33-40, 2009.
- \*53. Li, C.-Y., Yia, C.-L., Liu, Y.-W., Xiong, K.-M., Stewart, R.R., Peoples, R.W., Xiang, T., Zhou, L., Ai, Y.-X., and Li, Z.-W.: Conserved extracellular cysteines differentially regulate the inhibitory effect of ethanol in rat P2X<sub>4</sub> receptors. *Biochem. Biophys. Res. Commun.* **381**: 102-106, 2009.
- \*52. Yevenes, G.E., Moraga-Cid, G., Peoples, R.W., Schmalzing, G., and Aguayo, L.G.: A selective G $\beta\gamma$ -linked intracellular mechanism for modulation of a ligand-gated ion channel by ethanol. *Proc. Natl. Acad. Sci. USA* **105**: 20523-20528, 2008.
- \*51. Liu, Y.-W., Luo, J.-L., Ren, H., Peoples, R.W., Ai, Y.-X., Liu, L.-J., Pang, Y.-P., Li, Z.-W., Han, Y.-F., and Li, C.-Y.: Inhibition of NMDA-gated ion channels by bis(7)-tacrine: whole-cell and single-channel studies. *Neuropharmacol.* **54**: 1086-1094, 2008.
- \*50. Li, C.-Y., Luo, J.-L., Li, W.-M., Lao, Y.-Z., Liu, L.-J., Pang, Y.-P., Chang, D.C., Li, Z.-W., Peoples, R.W., Ai, Y.-X., and Han, Y.-F.: Bis(7)-tacrine prevents glutamate-induced excitotoxicity more potently than memantine by selectively inhibiting NMDA receptors. *Biochem. Biophys. Res. Commun.* **369**: 1007-1011, 2008.

- \*49. Ren, H., Salous, A.K., Paul, J.M., Lamb, K.A., Dwyer, D.S., and Peoples, R.W.: Functional interactions of alcohol-sensitive sites in the NMDA receptor M3 and M4 domains. *J. Biol. Chem.* 283: 8250-8257, 2008.
- \*48. Hu, X.-Q., and Peoples, R.W.: The 5-HT<sub>3B</sub> subunit confers spontaneous channel opening and altered ligand properties of the 5-HT<sub>3</sub> receptor. *J. Biol. Chem.* 283: 6826-68231, 2008.
- \*47. Sun, H., Hu, X., Emerit, M.B., Schoenebeck, J.C., Kimmel, C.E., Peoples, R.W., Miko, A., and Zhang, L.: Modulation of 5-HT<sub>3</sub> receptor distribution by the light chain of MAP1B expressed in HEK 293 cells. *J. Physiol.* 586: 751-762, 2008.
- \*46. Hu, X.-Q., and Peoples, R.W.: Arginine 246 in the pre-transmembrane domain 1 region alters 2,2,2-trichloroethanol action in the 5-HT<sub>3A</sub> receptor. *J. Pharmacol. Exp. Ther.* 324: 1011-1018, 2008.
- \*45. Ren, H., Salous, A.K., Paul, J.M., Lipsky, R.H., and Peoples, R.W.: Mutations at F637 in the NMDA receptor NR2A subunit M3 domain influence agonist potency, ion channel gating, and alcohol action. *Br. J. Pharmacol.* 151: 749-57, 2007.
- \*44. Lobner, D., Piana, P.M.T., Salous, A.K., Peoples, R.W.:  $\beta$ -N-methylamino-L-alanine enhances neurotoxicity through multiple mechanisms. *Neurobiol. Dis.* 25: 360-6, 2007.
- \*43. Hu, X.-Q., Sun, H., Peoples, R.W., Ren, H., and Zhang, L.: An interaction involving an arginine residue in the cytoplasmic domain of the 5-HT<sub>3A</sub> receptor contributes to receptor desensitization mechanism. *J. Biol. Chem.* 281: 21781-8, 2006.
42. Xiong, K., Stewart, R.R., Hu, X.-Q., Werby, E., Peoples, R.W., Weight, F.F., Li, C.: Role of extracellular histidines in agonist sensitivity of the rat P2X<sub>4</sub> receptor. *Neurosci. Lett.* 365: 195-9, 2004.
41. Honse, Y., Ren, H., Lipsky, R.H., and Peoples, R.W.: Sites in the fourth membrane-associated domain regulate alcohol sensitivity of the NMDA receptor. *Neuropharmacol.* 46: 647-654, 2004.
40. Akinshola, B.E., Yasuda, R.P., Peoples, R.W., and Taylor, R.E.: Ethanol sensitivity of recombinant homomeric and heteromeric AMPA receptor subunits expressed in *Xenopus* oocytes. *Alcohol. Clin. Exp. Res.* 27: 1876-1883, 2003.
39. Ren, H., Honse, Y., and Peoples, R.W.: A site of alcohol action in the fourth membrane-associated domain of the *N*-methyl-D-aspartate receptor. *J. Biol. Chem.* 278: 48815-48820, 2003.
38. Kanemitsu, Y., Hosoi, M., Zhu, P.J., Weight, F.F., Peoples, R.W., McLaughlin, J.S., and Zhang, L.: Dynorphin A inhibits NMDA receptors through a pH dependent mechanism. *Mol. Cell. Neurosci.* 24: 525-537, 2003.
37. Yevenes, G.E., Peoples, R.W., Tapia, J.C., Parodi, J., Soto, X., Olate, J., and Aguayo, L.G.: Modulation of glycine-activated ion channel function by G protein  $\beta\gamma$  subunits. *Nat. Neurosci.* 6: 819-824, 2003.

36. Ren, H., Honse, Y., Karp, B.J., Lipsky, R.H., and Peoples, R.W.: A site in the fourth membrane-associated domain of the NMDA receptor regulates desensitization and ion channel gating. *J. Biol. Chem.* 278: 276-283, 2003.
35. Peoples, R.W., and Ren, H.: Inhibition of *N*-methyl-D-aspartate receptors by long-chain diols: implications for the mechanism of the alcohol cutoff effect. *Mol. Pharmacol.* 61: 169-176, 2002.
34. Peoples, R.W., and Stewart, R.R.: Alcohols inhibit *N*-methyl-D-aspartate receptors via a site exposed to the extracellular environment. *Neuropharmacol.* 39: 1681-1691, 2000.
33. Xiong, K., Peoples, R.W., Montgomery, J., Chiang, Y., Stewart, R.R., Weight, F.F., and Li, C.: Differential modulation by copper and zinc of P2X<sub>2</sub> and P2X<sub>4</sub> receptor function. *J. Neurophysiol.* 81: 2088-2094, 1999.
32. Li, C., Peoples, R.W., Lanthorn, T.H., Li, Z., and Weight, F.F.: Distinct ATP-activated currents in different types of rat dorsal root ganglion neurons. *Neurosci. Lett.* 263: 57-60, 1999.
31. Peoples, R.W., and Weight, F.F.: Differential alcohol modulation of GABA<sub>A</sub> and NMDA receptors. *NeuroReport* 10: 97-101, 1999.
30. Peoples, R.W., and Weight, F.F.: Inhibition of excitatory amino acid-activated currents by trichloroethanol and trifluoroethanol. *Br. J. Pharmacol.* 124: 1159-1164, 1998.
29. Peoples, R.W., and Li, C.: Inhibition of NMDA-gated ion channels by the P2 purinoceptor antagonists suramin and reactive blue 2. *Br. J. Pharmacol.* 124: 400-408, 1998.
28. Zhai, J., Peoples, R.W., and Li, C.: Proton inhibition of GABA-activated current in rat primary sensory neurons. *Pflügers Arch.* 435: 539-544, 1998.
27. Li, C., Peoples, R.W., and Weight, F.F.: Ethanol-induced inhibition of a neuronal P2X purinoceptor by an allosteric mechanism. *Br. J. Pharmacol.* 123: 1-3, 1998.
26. Li, C., Peoples, R.W., and Weight, F.F.: Inhibition of ATP-activated current by zinc in dorsal root ganglion neurones of bullfrog. *J. Physiol.* 505: 641-653, 1997.
25. Peoples, R.W., White, G., Lovinger, D.M., and Weight, F.F.: Ethanol inhibition of *N*-methyl-D-aspartate-activated current in mouse hippocampal neurones: whole-cell patch-clamp analysis. *Br. J. Pharmacol.* 122: 1035-1042, 1997.
24. Zhang, L., Peoples, R.W., Oz, M., Harvey-White, J., Weight, F.F., and Brauneis, U.: Potentiation of NMDA receptor-mediated responses by dynorphin at low glycine concentrations. *J. Neurophysiol.* 78: 582-590, 1997.
23. Li, C., Peoples, R.W., and Weight, F.F.: Mg<sup>2+</sup> inhibition of ATP-activated current in rat nodose ganglion neurons: evidence that Mg<sup>2+</sup> decreases the affinity of the receptor. *J. Neurophysiol.* 77: 3391-3395, 1997.



22. Zhang, L., Oz, M., Stewart, R.R., Peoples, R.W., and Weight, F.F.: Volatile general anaesthetic actions on recombinant nACh<sub>α7</sub>, 5-HT<sub>3</sub>, and chimeric nACh<sub>α7</sub>-5-HT<sub>3</sub> receptors expressed in *Xenopus* oocytes. *Br. J. Pharmacol.* 120: 353-355, 1997.
21. Li, C., Peoples, R.W., and Weight, F.F.: Proton potentiation of ATP-activated inward current in dorsal root ganglion neurones of bullfrog. *Pflügers Arch.* 433: 446-454, 1997.
20. Brauneis, U., Oz, M., Peoples, R.W., Weight, F.F., and Zhang, L.: Differential sensitivity of recombinant NMDA receptor subunits to inhibition by dynorphin. *J. Pharmacol. Exp. Ther.* 279: 1063-1068, 1996.
19. Wright, J.M., Peoples, R.W., and Weight, F.F.: Single-channel and whole-cell analysis of ethanol inhibition of NMDA-activated currents in cultured mouse cortical and hippocampal neurons. *Brain Res.* 738: 249-256, 1996.
18. Li, C., Peoples, R.W., and Weight, F.F.: Proton potentiation of ATP-gated ion channel responses to ATP and Zn<sup>2+</sup> in rat nodose ganglion neurons. *J. Neurophysiol.* 76: 3048-3058, 1996.
17. Li, C., Peoples, R.W., and Weight, F.F.: Acid pH augments excitatory action of ATP on a mammalian sensory neuron. *NeuroReport* 7: 2151-2154, 1996.
16. Li, C., Peoples, R.W., and Weight, F.F.: Cu<sup>2+</sup> potently enhances ATP-activated current in rat nodose ganglion neurons. *Neurosci. Lett.* 219: 45-48, 1996.
15. Peoples, R.W., and Weight, F.F.: Cutoff in potency implicates alcohol inhibition of N-methyl-D-aspartate receptors in alcohol intoxication. *Proc. Natl. Acad. Sci. USA* 92: 2825-2829, 1995.
14. Patel, M.N., Peoples, R.W., Yim, G.K.W., and Isom, G.E.: Enhancement of NMDA-mediated responses by cyanide. *Neurochem. Res.* 19: 1319-1323, 1994.
13. Peoples, R.W., and Weight, F.F.: Trichloroethanol potentiation of  $\gamma$ -aminobutyric acid-activated chloride current in mouse hippocampal neurons. *Br. J. Pharmacol.* 113: 555-563, 1994.
12. Li, C., Peoples, R.W., and Weight, F.F.: A cutoff in the potency of alcohols for inhibiting a neurotransmitter receptor. *Proc. Natl. Acad. Sci. USA* 91: 8200-8204, 1994.
11. Li, C., Aguayo, L.G., Peoples, R.W., and Weight, F.F.: Ethanol inhibits a neuronal ATP-gated ion channel. *Mol. Pharmacol.* 44: 871-875, 1993.
10. Li, C., Peoples, R.W., Li, Z., and Weight, F.F.: Zn<sup>2+</sup> potentiates excitatory action of ATP on mammalian neurons. *Proc. Natl. Acad. Sci. USA* 90: 8264-8267, 1993.
9. Giridhar, J., Peoples, R.W., and Isom, G.E.: Modulation of hypothalamic norepinephrine release by atrial natriuretic peptide: involvement of cyclic GMP. *Eur. J. Pharmacol.* 213: 317-321, 1992.

8. Peoples, R.W., and Weight, F.F.: Ethanol inhibition of NMDA-activated ion current in rat hippocampal neurons is not competitive with glycine. *Brain Res.* 571: 342-344, 1992.
7. Kanthaswamy, A.G., Maduh, E.U., Peoples, R.W., Borowitz, J.L., and Isom, G.E.: Calcium mediation of cyanide-induced catecholamine release: implications for neurotoxicity. *Toxicol. Appl. Pharmacol.* 110: 275-282, 1991.
6. Peoples, R.W., Giridhar, J., and Isom, G.E.:  $\gamma$ -aminobutyric acid<sub>A</sub> (GABA<sub>A</sub>) receptor modulation of morphine inhibition of norepinephrine release. *Biochem. Pharmacol.* 42: S121-S126, 1991.
5. Peoples, R.W., Giridhar, J., and Isom, G.E.:  $\gamma$ -aminobutyric acid enhancement of potassium-stimulated release of [<sup>3</sup>H]norepinephrine by multiple mechanisms in rat cortical slices. *Biochem. Pharmacol.* 41: 119-123, 1991.
4. White, G., Lovinger, D.M., Weight, F.F., and Peoples, R.W.: Inhibition of *N*-methyl-D-aspartate activated ion current by desmethylinipramine. *Brain Res.* 537: 337-339, 1990.
3. Conroy, W.G., Peoples, R.W., and Isom, G.E.: Identification of functional beta-adrenergic receptors on AC glioma cells. *Biochem. Pharmacol.* 38: 3175-3178, 1989.
2. Peoples, R.W., Spratto, G.R., Akbar, W.J., and Fletcher, H.P.: The effect of repeated administration of soman on selected endocrine parameters and blood glucose in rats. *Fundam. Appl. Toxicol.* 11: 587-593, 1988.
1. Fletcher, H.P., Akbar, W.J., Peoples, R.W., and Spratto, G.R.: The effect of acute administration of soman on selected endocrine parameters and blood glucose in rats. *Fundam. Appl. Toxicol.* 11: 580-586, 1988.

## INVITED BOOK CHAPTERS AND REVIEWS

12. Aguayo, L.G., Peoples, R.W., Yeh, H., and Yévenes, G.: GABA<sub>A</sub> receptors as molecular sites of ethanol action: direct or indirect actions? *Curr. Top. Med. Chem.* 2: 869-885, 2002.
11. Peoples, R.W.: Alcohol actions on glutamate receptors. in *Glutamate and Addiction*, B. H. Herman, J. Frankenheim, R. Litten, P. H. Sheridan, F. F. Weight, and S. R. Zukin, eds., Humana Press, Totowa, NJ, pp. 343-356, 2002.
10. Weight, F.F., Li, C., and Peoples, R.W.: Alcohol action on membrane ion channels gated by extracellular ATP (P2X receptors). *Neurochem. Int.* 35: 143 - 152, 1999.
9. Wright, J.M., and Peoples, R.W.: NMDA receptor pharmacology and analysis of patch-clamp recordings. in *NMDA Receptor Protocols*, M. Li, ed., Humana Press, Totowa, NJ, pp. 143-153, 1999.
8. Peoples, R.W., and Weight, F.F.: Anesthetic actions on excitatory amino acid receptors. in *Anesthesia: Biologic Foundations*, T.L. Yaksh, C. Lynch, W.M. Zapol, M. Maze, J.F. Biebuyck, and L.J. Saidman, eds., Lippincott-Raven Press, New York, pp. 239-258, 1997.
7. Peoples, R.W., Li, C., and Weight, F.F.: Lipid vs. protein theories of alcohol action in the nervous system. *Annu. Rev. Pharmacol. Toxicol.* 36: 185-201, 1996.
6. Weight, F.F., Peoples, R.W., Wright, J.M., Li, C., Aguayo, L.G., Lovinger, D.M., and White, G.: Neurotransmitter-gated ion channels as molecular sites of alcohol action. in *Alcohol, Cell Membranes, and Signal Transduction in Brain*, C. Alling, I. Diamond, S.W. Leslie, G. Sun, and W.G. Wood, eds., Plenum Press, New York, pp. 107-122, 1993.
5. Lovinger, D.M., and Peoples, R.W.: Actions of alcohols and other sedative/hypnotic compounds on cation channels associated with glutamate and 5-HT<sub>3</sub> receptors. in *Alcohol, Cell Membranes, and Signal Transduction in Brain*, C. Alling, I. Diamond, S.W. Leslie, G. Sun, and W.G. Wood, eds., Plenum Press, New York, pp. 157-167, 1993.
4. Weight, F.F., Peoples, R.W., Wright, J.M., Lovinger, D.M., and White, G.: Ethanol action on excitatory amino acid activated ion channels. *Alc. Alcoholism Suppl.* 2: 353-358, 1993.
3. Weight, F.F., Aguayo, L.G., White, G., Lovinger, D.M., and Peoples, R.W.: GABA- and glutamate-gated ion channels as molecular sites of alcohol and anesthetic action. in *GABAergic Synaptic Transmission*, G. Biggio, A. Concas, and E. Costa, eds., *Adv. Biochem. Psychopharmacol.* vol. 47, Raven Press, New York, pp. 335-347, 1992.
2. Weight, F.F., Peoples, R.W., Lovinger, D.M., White, G., Aguayo, L.G., Li, C., and Visentin, S.: Neurotransmitter-gated ion channels as molecular sites of psychoactive drug action. *IEEE/Medicine & Biol.* 13: 1536-1537, 1991.

1. Weight, F.F., Lovinger, D.M., White, G., and Peoples, R.W.: Alcohol and anesthetic actions on excitatory amino acid activated ion channels. *Ann. NY Acad. Sci.* 625: 97-107, 1991.

## ABSTRACTS

(\*work performed at Marquette University)

- \*70. Ren, H., Peoples, R.W.: Effects of ethanol on NMDA receptor-ion channel gating kinetics. *Alcohol. Clin. Exp. Res.* 33: 140A, 2010.
- \*69. Ren, H., Peoples, R.W.: Ethanol modulation of NMDA receptor single-channel current in NR2A M domain mutant subunits with altered ethanol sensitivity. *Society for Neuroscience Annual Meeting*, 613.27, 2009.
- \*68. Aguayo, L.G., Yevenes, G., Moraga-Cid, G., Peoples, R.W., and Schmalzing, G.: Understanding the importance of intracellular regions in the glycine receptor for ethanol actions. *Alcohol. Clin. Exp. Res.* 32: 304A, 2008.
- \*67. Hu, X.-Q., and Peoples, R.W.: Distinct roles of R246 and P247 in gating mechanism of the 5-HT<sub>3A</sub> receptor and allosteric modulation by trichloroethanol. *Alcohol. Clin. Exp. Res.* 32: 214A, 2008.
- \*66. Ren, H., Hu, X.-Q., and Peoples, R.W.: Single-channel behavior of NMDA receptors with mutations at an alcohol-sensitive site in the M4 domain. *Alcohol. Clin. Exp. Res.* 32: 24A, 2008.
- \*65. Peoples, R.W., Ren, H., Salous, A.K., Lamb, K.A.: Mutations at a site in the NMDA receptor NR2A subunit M4 domain alter ethanol sensitivity in a manner unrelated to agonist potency or desensitization. *Society for Neuroscience Annual Meeting*, 875.6, 2007.
- \*64. Hu, X.-Q., and Peoples, R.W.: Role of the 5-HT<sub>3B</sub> subunit in gating and allosteric modulation of the 5-HT<sub>3</sub> receptor. *Society for Neuroscience Annual Meeting*, 782.24, 2007.
- \*63. Hu, X.-Q., and Peoples, R.W.: Gating efficacy in alcohol modulation of the 5-HT<sub>3</sub> receptor. *Alcohol. Clin. Exp. Res.* 31: 84A, 2007.
- \*62. Lamb, K.A., Salous, A.K., Madayag, A., Ren, H., and Peoples, R.W.: Differential effects of ethanol and trichloroethanol on NR2A and NR2B NMDA receptor subunits. *Alcohol. Clin. Exp. Res.* 31: 204A, 2007.
- \*61. Zhang, L., Sun, H., Peoples, R.W., Ren, H., Hu, X.: An interaction involving an arginine residue in the cytoplasmic domain of the 5-HT<sub>3A</sub> receptor contributes to receptor desensitization. *Society for Neuroscience Annual Meeting*, 625.4, 2006.
- \*60. Salous, A., Lamb, K.A., Ren, H., and Peoples, R.W.: Effects of trichloroethanol on a site in the M4 domain of the NMDA receptor NR2A subunit. *Society for Neuroscience Annual Meeting*, 32.19, 2006.
- \*59. Hu, X.-Q., and Peoples, R.W.: Conversion of trichloroethanol to an agonist from a modulator by R245A mutation in the 5-HT<sub>3A</sub> receptor. *Society for Neuroscience Annual Meeting*, 625.10, 2006.

- \*58. Ren, H., Salous, A., Paul, J., and Peoples, R.W.: Mutations at a site in the NMDA receptor NR2A subunit M3 domain alter agonist potency, ion channel gating, and ethanol sensitivity. Society for Neuroscience Annual Meeting, 32.15, 2006.
- \*57. Ren, H., Salous, A., Paul, J., and Peoples, R.W.: Effects of mutations at a site in the NR2A subunit M3 domain on agonist potency, desensitization, and ethanol sensitivity. Alcohol. Clin. Exp. Res. 30: 19A, 2006.
- \*56. Salous, A., Lamb, K.A., Ren, H., and Peoples, R.W.: Differential effects of NR2A subunit M domain mutations on ethanol and trichloroethanol modulation of the NMDA receptor. Alcohol. Clin. Exp. Res. 30: 20A, 2006.
- \*55. Aguayo, L.G., Yevenes, G., Moraga-Cid, G., Peoples, R.W., and Schmalzing, G.: Differential regulation of ethanol- and general anesthetic-induced modulation by the intracellular loop of glycine receptor. Alcohol. Clin. Exp. Res. 30: 12A, 2006.
- \*54. Emerit, M.B., Sun, H., Hu, X.-Q., Schoenebeck, J.C., Peoples, R.W., Hong, R., Miko, A., Williams, C.K., and Zhang, L.: 5-HT<sub>3A</sub> receptor channels linkage to cytoskeleton by MAP1b determines receptor desensitization kinetics. Society for Neuroscience Annual Meeting, 844.17, 2005.
- \*53. Yevenes, G.E., Moraga-Cid, G., Peoples, R.W., Schmalzing, G., and Aguayo, L.G.: Mutations in the large cytoplasmic loop of the glycine receptor  $\alpha_1$  subunit changes channel properties and g-protein activation modulation. Society for Neuroscience Annual Meeting, 724.5, 2005.
- \*52. Paul, J.M., Ren, H., Salous, A., and Peoples, R.W.: Mutations at multiple ethanol-sensitive sites in the NMDA receptor NR2A subunit interactively regulate ethanol inhibition. Alcohol. Clin. Exp. Res. 29: 140A, 2005.
- \*51. Ren, H., Paul, J.M., and Peoples, R.W.: Effects of mutations at alcohol-sensitive sites in the NMDA receptor NR2A subunit on receptor function. Alcohol. Clin. Exp. Res. 29: 140A, 2005.
- 50. Peoples, R.W.: Evidence for sites of alcohol action in regions of NMDA receptors regulating ion channel gating. Alcohol. Clin. Exp. Res. 27: 180A, 2003.
- 49. Honse, Y., Ren, H., and Peoples, R.W.: Role of the NMDA receptor NR2A subunit M4 domain in ion channel gating and alcohol action. Alcohol. Clin. Exp. Res. 27: 12A, 2003.
- 48. Ren, H., and Peoples, R.W.: Effects of mutations at a site in M4 of the NMDA receptor on kinetics of ethanol inhibition. Alcohol. Clin. Exp. Res. 27: 12A, 2003.
- 47. Ren, H., Honse, Y., Karp, B.J., and Peoples, R.W.: A site in the fourth membrane-associated domain of the NMDA receptor regulates desensitization and ion channel gating. Soc. Neurosci. Abstr. 28: 639.9, 2002.

46. Peoples, R.W., and Ren, H.: Inhibition of *N*-methyl-D-aspartate receptors by long-chain diols: implications for the mechanism of the alcohol cutoff effect. *Alcohol Res.* 7: 114, 2002.
45. Ren, H., and Peoples, R.W.: Role of a site in M4 regulating ion channel gating in alcohol inhibition of NMDA receptors. *Alcohol. Clin. Exp. Res.* 26: 107A, 2002.
44. Peoples, R.W., and Ren, H.: Role of ion channel gating in alcohol inhibition of NMDA receptors. Thomas Jefferson University conference "Molecular Mechanisms of Alcohol and Anesthetic Action", 2001.
43. Yévenes, G., Peoples, R.W., Tapia, J.C., Olate, J., and Aguayo, L.G.: Modulation of the human  $\alpha_1$  glycine receptor subunit by different families of G proteins. XLIV Annual Meeting of the Society for Biology of Chile, 2001.
42. Peoples, R.W., and Ren, H.: Identification of a site in the M4 region of the NMDA receptor that alters ion channel gating. *Soc. Neurosci. Abstr.* 27: 359, 2001.
41. Ren, H., Stewart, R.R., and Peoples, R.W.: Effect of amino acid substitutions at a site in the M4 region that alters ion channel gating of the NMDA receptor. *Soc. Neurosci. Abstr.* 27: 359, 2001.
40. Peoples, R.W., and Stewart, R.R.: Ethanol inhibition of NR1/NR2B NMDA-gated ion channels does not require the intracellular C-terminus. *Soc. Neurosci. Abstr.* 25: 1714, 1999.
39. Peoples, R.W.: Studies on the site of alcohol action on NMDA receptor-channels. American Society for Biochemistry and Molecular Biology Fall Symposium "Ethanol and Cell Signaling", 1999.
38. Peoples, R.W.: Alcohol cutoff effect on the NMDA receptor-ion channel: studies with straight-chain diols. *Alcohol. Clin. Exp. Res.* 23: 9A, 1999.
37. Xiong, K., Li, C., Peoples, R.W., and Weight, F.F.: Differential modulation by zinc and copper of P2X<sub>4</sub> purinoceptors expressed in *Xenopus* oocytes. *Soc. Neurosci. Abstr.* 24: 2029, 1998.
36. Peoples, R.W.: Alcohols inhibit NMDA-gated ion channels by an action at an extracellular site. *Soc. Neurosci. Abstr.* 24: 343, 1998.
35. Weight, F.F., Zhang, L., Peoples, R.W., and Li, C.: Molecular determinants of alcohol sensitivity. Ninth Congress of the International Society for Biomedical Research on Alcoholism, 1998.
34. Peoples, R.W.: Effect of long-chain *n*-alcohols on ethanol inhibition of the NMDA receptor-ion channel. *Alcohol. Clin. Exp. Res.* 22: 7A, 1998.
33. Li, C., Peoples, R.W., and Weight, F.F.: Inhibition of ATP-activated inward current by zinc in sensory neurons. *Soc. Neurosci. Abstr.* 23: 378, 1997.
32. Peoples, R.W., and Li, C.: Inhibition of NMDA-gated ion channels by the P2 purinoceptor antagonists suramin and reactive blue 2. *Soc. Neurosci. Abstr.* 23: 378, 1997.

31. Weight, F.F., Li, C., Peoples, R.W., Wright, J.M., Lovinger, D.M., White, G., Ravindran, A., and Zhang, L.: Diversity and specificity of mechanisms in alcohol and anaesthetic actions on neurotransmitter-gated ion channels. Fifth International Conference on Molecular and Cellular Mechanisms of Anaesthesia, 1997.
30. Li, C., Peoples, R.W., and Weight, F.F.:  $Mg^{2+}$  inhibition of ATP-activated current in rat nodose ganglion neurons: evidence that  $Mg^{2+}$  decreases the agonist affinity of the receptor. XXXIII Congress IUPS Abstr., 1997.
29. Peoples, R.W., and Weight, F.F.: Kinetic analysis of ethanol inhibition of the NMDA receptor-ion channel in hippocampal neurons. *Alcohol. Clin. Exp. Res.* 21: 71A, 1997.
28. Li, C., Peoples, R.W., and Weight, F.F.: Ethanol inhibition of ATP-activated current: evidence that ethanol decreases the agonist affinity of the receptor by an allosteric action. *Alcohol. Clin. Exp. Res.* 21: 5A, 1997.
27. Li, C., Peoples, R.W., and Weight, F.F.: Proton potentiation of ATP-activated inward current in sensory neurons. *Soc. Neurosci. Abstr.* 22: 1339, 1996.
26. Akinshola, B.E., Peoples, R.W., Stewart, R., and Weight, F.F.: Sensitivity of native and recombinant glutamate receptors to aliphatic *n*-alcohol inhibition. *Soc. Neurosci. Abstr.* 22: 338, 1996.
25. Brauneis, U., Peoples, R.W., Oz, M., Weight, F.F., and Zhang, L.: Potentiation of NMDA receptor-mediated responses by dynorphin at low glycine. *Soc. Neurosci. Abstr.* 22: 67, 1996.
24. Weight, F.F., Li, C., Peoples, R.W., Fan, P., Akinshola, B.E., Yu, D., and Zhang, L.: Alcohol effects on neurotransmitter-gated ion channels: evidence for mediation by a direct action on the receptor. International Conference on the Neurochemistry and Pharmacology of Drug Addiction and Alcoholism, 1996.
23. Peoples, R.W.: Studies on the mechanism of inhibition by alcohols of the NMDA receptor-ion channel in mouse hippocampal neurons. *Alcohol. Clin. Exp. Res.* 20: 9A, 1996.
22. Peoples, R.W., and Weight, F.F.: Aliphatic alcohols exhibit a cutoff in potency for enhancement of GABA-activated ion current. *Soc. Neurosci. Abstr.* 21: 1814, 1995.
21. Li, C., Peoples, R.W., and Weight, F.F.: Alcohol inhibition of ATP-activated current is not mediated by actions on membrane lipids or intracellular proteins. *Soc. Neurosci. Abstr.* 20: 1127, 1994.
20. Peoples, R.W., and Weight, F.F.: Differential sensitivity of NMDA- and GABA-activated ion channels to alcohols of varying hydrophobicity. *Soc. Neurosci. Abstr.* 20: 1126, 1994.
19. Wright, J.M., Peoples, R.W., and Weight, F.F.: Ethanol decreases both mean open time and frequency of opening of NMDA receptor-channels. *Soc. Neurosci. Abstr.* 19: 716, 1993.



18. Li, C., Peoples, R.W., and Weight, F.F.: Alcohols inhibit ATP-activated ion current by a direct interaction with the channel protein. Soc. Neurosci. Abstr. 19: 283, 1993.
17. Peoples, R.W., and Weight, F.F.: Aliphatic alcohols exhibit a cutoff in potency of inhibition of NMDA-activated ion current. Soc. Neurosci. Abstr. 19: 277, 1993.
16. Li, C., Peoples, R.W., Li, Z., and Weight, F.F.: Zinc potentiates excitatory action of ATP on mammalian neurons. XXXII Congress IUPS Abstr. 204.44P, 1993.
15. Weight, F.F., and Peoples, R.W.: General anesthetic effects on excitatory amino acid activated ion channels in hippocampal neurons. XXXII Congress IUPS Abstr. 244.10P, 1993.
14. Peoples, R.W., and Weight, F.F.: Inhibition of excitatory amino acid-activated ion currents by inhalational anesthetics. Soc. Neurosci. Abstr. 18: 248, 1992.
13. Li, C., Peoples, R.W., Li, Z., and Weight, F.F.: Zinc potentiates ATP-activated inward current in rat nodose ganglion neurons. Soc. Neurosci. Abstr. 18: 1503, 1992.
12. Weight, F.F., Peoples, R.W., Visentin, S., Li, C., Lovinger, D.M., and White, G.: Alcohol and abused drugs: progress on molecular mechanisms. International Meeting on CNS Active Compounds, 1992.
11. Patel, M.N., Peoples, R.W., Yim, G.K.W., and Isom, G.E.: Enhancement of NMDA-mediated responses by cyanide. Soc. Neurosci. Abstr. 17: 1167, 1991.
10. Peoples, R.W., and Weight, F.F.: Inhibition of the NMDA-activated ion current by ethanol in rat hippocampal neurons does not involve the glycine or proton modulatory sites. Soc. Neurosci. Abstr. 17: 1535, 1991.
9. Peoples, R.W., and Weight, F.F.: Modulation of amino acid-activated ion currents by trichloroethanol. Third IBRO World Congress of Neurosci. Abstr. 3: 63, 1991.
8. Lovinger, D.M., and Peoples, R.W.: Ethanol (EtOH) potentiation of 5-HT<sub>3</sub> receptor-mediated ion current: comparison to actions of other sedative/hypnotic agents. Alcohol. Clin. Exp. Res. 15: 325, 1991.
7. White, G., Lovinger, D.M., Peoples, R.W., and Weight, F.F.: Analysis of ethanol (EtOH) interaction with glycine potentiation of NMDA-activated ion current. Soc. Neurosci. Abstr. 16: 1041, 1990.
6. Peoples, R.W., Lovinger, D.M., and Weight, F.F.: Inhibition of excitatory amino acid currents by general anesthetic agents. Soc. Neurosci. Abstr. 16: 1017, 1990.
5. Giridhar, J., Peoples, R.W., and Isom, G.E.: Neuromodulatory action of ANF of rat hypothalamus. Pharmacologist 32, 1990.

4. Peoples, R.W., and Isom, G.E.: GABA and benzodiazepines modulate the inhibition by morphine of potassium-stimulated <sup>3</sup>H-norepinephrine (<sup>3</sup>H-NE) release in rat frontal cortical slices. *Pharmacologist* 30: A25, 1988.
3. Maduh, E.U., Peoples, R.W., Borowitz, J.L., and Isom, G.E.: Potassium cyanide-induced release of neurotransmitters in neural models. *Pharmacologist* 30: A46, 1988.
2. Peoples, R.W., Conroy, W.G., and Isom, G.E.: Characterization of beta-adrenergic and opioid receptors in AC glioma cells. *Fed. Proc.* 46: 1310, 1987.
1. Peoples, R.W., Akbar, W.J., Spratto, G.R., and Fletcher, H.P.: The effect of acute and subchronic doses of soman on hypothalamic and erythrocyte acetylcholinesterase (AChE) and plasma corticosterone (CS) levels in the male rat. *Pharmacologist* 27: 135, 1985.