

CURRICULUM VITAE

Joanna Peris, Ph.D.

updated 8/08

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EDUCATION

Oregon Health Sciences University, School of Medicine

Attended: 1980-1984

Major: Psychobiology

Degrees: M.S., June, 1982; Ph.D., June, 1984.

Dissertation: Associative and Nonassociative Factors in the Development of
Tolerance to the Thermic and Cardiovascular Effects of Ethanol.

Bowling Green State University

Attended: 1976-1980

Majors: Biology, Psychology

Degree: B. S., June, 1980.

EMPLOYMENT

1977-1978 Laboratory Instructor, Dept. Chemistry, Bowling Green State Univ., Bowling Green, OH.

1978-1980 Research Assistant, Dept. Psychology, Bowling Green State Univ., Bowling Green, OH.

1980-1984 Predoctoral Trainee, NHLBI Training Grant, Dept. of Medical Psychology, Oregon Health Sciences University, Portland, OR.

1984-1988 Postdoctoral Fellow, Department of Pharmacology, University of Colorado Health Sciences Center, Denver, CO.

1988-1994 Assistant Professor, Department of Pharmacodynamics, University of Florida, Gainesville, FL.

1994-pres. Associate Professor, Department of Pharmacodynamics, University of Florida, Gainesville, FL.

PROFESSIONAL ORGANIZATIONS

Society for Neurosciences, 1984 to present.
American Association for the Advancement of Science, 1986 to present.
Research Society on Alcoholism, 1986 to present.
University of Florida Brain Institute, 1990 to present.
University of Florida, Center for Neurobiological Sciences, 1990 to present.
University of Florida, Center for Alcohol Research, 1992 to present.
International Society for Neurochemistry, 1994 to present.
Kappa Epsilon Professional Fraternity, Advisor, 2004 to present.

COLLEGE and DEPARTMENTAL SERVICE

Health Center Student Conduct Standards Committee, 1/89 to 5/94.
College of Pharmacy, Academic Performance and Admissions Committee, 12/89 to 7/92.
Task Force on Education of Problem Solving Pharmacy Professionals, 9/89 to 6/90.
College of Pharmacy, Academic Advisor, 9/92 to present.
Graduate Student Selection Comm., Dept. Pharmacodyn., 3/92 to 9/96, 6/02 to present.
Graduate Coordinator, Dept. Pharmacodynamics, 1/93 to 9/96, 6/02 to present.
University of Florida Commencement Marshal, 4/94 to present.
College of Pharmacy, Tenure and Promotion Committee, 9/94 to 9/96, 1/03 to 1/05.
College of Pharmacy Graduate Studies Committee, 1/95 to 9/96, 6/02 to present.
College of Pharmacy, Alumni Awards Committee, 12/93 to 9/97.
College of Pharmacy Equipment Committee, Chair, 9/96 to present.
College of Pharmacy, Financial Aid and Awards Committee, 9/97 to 9/00.
Search Committee for New Faculty in College of Pharmacy (12 searches, chaired two).
University of Florida Animal Care and Use Committee, 5/02 to 8/05.
College of Pharmacy, Academic Performance Committee, 8/03 to present.

TEACHING EXPERIENCE

I teach yearly in the three semester Pharmacology series for first and second year Pharmacy students and coordinate the first course in this series. I also give yearly lectures in Physiological Basis of Disease for first year pharmacy students. My student evaluations are above average and I was elected for "Teacher of the Year" for 2007. I lecture yearly in an undergraduate Honors course in Pharmacy and have directed research projects for fifteen undergraduate Pharmacy students, five undergraduate IDS majors, thirteen senior clerkship students and a Fullbright Scholar from the University of Frankfurt resulting in a number of publications. In terms of graduate education, I coordinate and teach "Neurochemical Foundation of Pharmacodynamics", I lecture in "Research Techniques in Pharmacodynamics", and I developed, coordinate and teach "The Pharmacodynamics of Drugs of Abuse". I have supervised three Ph.D. students through matriculation, twelve doctoral students in their research rotations and three post-doctoral fellows.

HONORS

1983 Tartar Research Fellow, Oregon Health Sciences University.

1984 NIDA Postdoctoral Traineeship, University of Colorado Health Sciences Center

1986 NIMH Postdoctoral Fellowship, University of Colorado Health Sciences Center

1990 NIAAA Research Scientist Development Award, University of Florida.

RESEARCH FUNDING - Dr. Peris is P.I. unless indicated

8/86-7/87 NIMH NRSA Fellowship, University of Colorado Health Sciences Center.

1/89-4/92 UF College of Pharmacy Biomedical Research Starter Grant, Total direct costs = \$9,000.

3/89-4/89 UF Division of Sponsored Research, "Visualization of GABA and dopamine receptors in discrete brain regions after alcohol and cocaine treatment", Total direct costs = \$10,000.

4/89-3/93 NIAAA Research Grant (RO1 AA08262), "Nigrotectal GABA neurons in alcohol and kindled seizures", Total direct costs = \$201,137.

5/89-4/90 UF DSR New Investigator Award, "Nigrotectal GABA_A receptors in mice genetically selected for severity of ethanol withdrawal seizures", Total direct costs = \$18,815.

7/90 NIH Division of Research Resources (RR 005704), "Quantitative Densitometry Instrument", Co-P.I. (P.I. is J.W.Simpkins), Total direct costs = \$65,401.

9/90 ADAMHA Small Instrumentation Program, Total direct costs = \$16,700.

10/90-9/95 NIAAA Research Scientist Development Award Level II (K02 AA00135), "Nigrotectal GABA neurons in alcohol and kindled seizures", Total direct costs = \$289,240.

5/92-4/93 UF DSR, "GABA transmission in Ethanol-treated Rats", Total direct costs = \$24,870.

7/92-6/93 Department of Defense, "Collaborative Spinal Cord Injury, Neuroscience Research, Education and Training Facility", Researcher (P.I. is W. Luttge), Total direct costs = \$18,000,000.

7/93-12/95 Alcoholic Beverage Medical Research Foundation, "The neurochemical basis for cocaine abolishment of ethanol tolerance", Total direct costs = \$72,000.

7/93-6/03 NIAAA Training Grant (T31 AA 07561), "Training in alcohol and neurodegenerative disease", Associate Director (P.I. is M. Heaton), Total direct costs = \$1,169,780.

9/95-8/97 NIAAA Research Grant (RO1 AA 09115), "Chronic ethanol neurotoxicity and long-term potentiation", Total direct costs = \$125,181.

12/00-11/03 NINCDS Research Grant, "Role of eicosanoids in blood pressure control", Co-PI (PI is C. E. Wood), Total direct costs = \$750,000.

5/03-5/04 UFDSR Opportunity Fund, Multi-College Capillary Electrophoresis with Laser-induced Fluorescence Detection Instrument for Very High Resolution and Sensitivity Brain Microdialysis, PI, Total Direct costs - \$99,713.

5/05-4/09 NIAAA Research Grant (R01 AA 014708), "Time resolution of ethanol-induced neurotransmission", PI, Total direct costs = \$603,599.

5/07-5/08 UFDSR Opportunity Fund, "Preclinical development of drugs for obesity and cocaine addiction", Co-I, (PI is Ray Booth), Total Direct costs - \$81,850.

12/07-11/11 NIDA Research Grant (R01 DA023928), "Novel 5HT2C agonist drugs with 5HT2A antagonist activity for cocaine addiction", Co-I with 20% effort, (PI is Ray Booth), Total direct costs = \$1,000,000.

8/08-7/09 NIDA Research Grant (R01 DA023928), "Novel 5HT2C agonist drugs with 5HT2A antagonist activity for cocaine addiction", Co-I with 20% effort, (PI is Ray Booth), Total direct costs = \$1,000,000.

PUBLICATIONS

1. Cunningham, C. L., & **Peris, J.** A microcomputer system for temperature biotelemetry. *Behav. Res. Methods Instr.* 15: 598-603, 1983.
2. Mitchel, M. A., **Peris, J.** & Harris, R. A. Barbiturate tolerance and dependence: Effects on synaptosomal sodium transport and membrane fluidity. *Pharmacol. Biochem. Behav.* 22: 955-960, 1985.
3. **Peris, J.**, & Cunningham, C. L. Dissociation of tolerance to the hypothermic and tachycardic effects of ethanol. *Pharmacol. Biochem. Behav.* 22: 973-978, 1985.
4. **Peris, J.**, & Cunningham, C. L. Heart rate responses to shock delivered via different implanted electrodes. *Physiol. Behav.* 36:975-977, 1986.
5. **Peris, J.**, & Cunningham, C. L. Handling-induced enhancement of alcohol's acute physiological effects. *Life Sci.* 38: 273-279, 1986.
6. **Peris, J.**, & Dunwiddie, T. V. Inhibitory neuromodulation of release of amino acid neurotransmitters. *Alc. Drug Res.* 6: 253-264, 1986.
7. Zahniser, N. R., **Peris, J.**, & Dwoskin, L. P. Modulation of neurotransmitter release: An assay for receptor function. *Soc. Neurosci. Short Course I*, 73-81, 1986.
8. **Peris, J.**, & Cunningham, C. L. Stress enhances the development of tolerance to the hypothermic effect of ethanol. *Alc. Drug Res.*, 3: 187-193, 1987.
9. Schwarz, K. S., **Peris, J.**, & Cunningham, C. L. Effects of restraint and naltrexone on the biphasic heart rate response to morphine in rats. *Alc. Drug Res.*, 7: 327-339, 1987.
10. **Peris, J.**, & Zahniser, N. R. One injection of cocaine produces a long-lasting increase in [³H]- dopamine release. *Pharmacol. Biochem. Behav.*, 27: 533-535, 1987.
11. **Peris, J.**, Harris, R. A., & Zahniser, N. R. Modulation of calcium-independent ³H-gamma aminobutyric acid release evoked from rat cortical slices by alpha₂ adrenergic receptors. *Neurosci. Lett.*, 80: 309-314, 1987.
12. Dwoskin, L.P., **Peris, J.**, Philpott, K., & Zahniser, N.R. Repeated cocaine administration results in supersensitivity of striatal D₂ dopamine autoreceptors to pergolide. *Life Sci.* 42:255-262, 1988.
13. **Peris, J.**, Dwoskin, L. P. & Zahniser, N. R. Biphasic modulation of [³H] D-aspartate release by D₂ dopamine receptors in rat striatal slices. *Synapse*, 2:450-456, 1988.

14. Zahniser, N.R., **Peris, J.**, Dwoskin, L.P., Curella, P., Yasuda, R. & Boyson, S.J. Sensitization to cocaine in the nigrostriatal dopamine system. In D. Clouet, K. Asghar & R. Brown (eds): Mechanisms of Cocaine Abuse and Toxicity, NIDA Research Monograph 88, Washington, D.C., pp. 55-77, 1988.
15. Lewin, E., **Peris, J.**, Bleck, V., Zahniser, N. R. & Harris, R. A. Chemical kindling decreases GABA-Activated chloride channels of mouse cortex. *Eur. J. Pharmacol.* 160: 101-106, 1989.
16. **Peris, J.** & Zahniser, N. R. Persistent augmented dopamine release after acute cocaine requires dopamine receptor activation. *Pharmacol. Biochem. Behav.*, 32: 71-76, 1989.
17. Lewin, E., **Peris, J.**, Bleck, V., Zahniser, N. R. & Harris, R. A. Diazepam sensitizes mice to FG 7142 and reduces muscimol-stimulated ³⁶Cl- flux. *Pharmacol. Biochem. Behav.* 33: 465-468, 1989.
18. **Peris, J.**, Wehner, J.M. & Zahniser, N. R. [³⁵S]TBPS sites are increased in the colliculi of mice with a genetic predisposition to bicuculline-induced seizures. *Brain Res.*, 503:288-295, 1989.
19. **Peris, J.**, Boyson, S. J., Cass, W. A., Curella, P., Dwoskin, L. P., Larson, G., Linn. L-H., Yasuda, R. P., and Zahniser, N. R. Persistence of neurochemical changes in dopamine systems after repeated cocaine administration. *J. Pharmacol. Exp. Ther.*, 253: 38-44, 1990.
20. **Peris, J.**, Shawley, A., Dawson, R. & Abendschein, K. H. Regulation of ³⁵S-TBPS binding by bicuculline is region specific in rat brain. *Life Sci.*, 49: PL49-PL54, 1991.
21. **Peris, J.**, Coleman, M., Decambre, N. & Simpkins, J. W. Estradiol enhances behavioral sensitization to cocaine and amphetamine-stimulated striatal ³H]dopamine release. *Brain Res.* 566: 255- 264, 1991.
22. Zahniser, N. R. & **Peris, J.** Neurochemical mechanisms of cocaine-induced sensitization. In J. M. Lakoski, M. P. Galloway & F. J. White (eds): Cocaine: Pharmacology, Physiology and Clinical Strategies. CRC Press: Boca Raton, pp. 229-260, 1992.
23. **Peris, J.**, Coleman-Hardee, M. L., Burry, J. & Pecins-Thompson, M. Selective changes in GABAergic transmission in substantia nigra and superior colliculus caused by ethanol and ethanol withdrawal. *Alcohol: Clin. Exp. Res.* 16: 311-319, 1992.
24. **Peris, J.** Differential sensitivity of nigrotectal GABA neurons to alcohol and alcohol withdrawal seizures. In R. R. Watson (ed): Alcohol and Neurobiology: Receptors, Membranes, and Channels. CRC Press: Boca Raton, pp. 51-71, 1992.

25. **Peris, J.**, Coleman-Hardee, M. & Millard, W.J. Cocaine in utero enhances the behavioral response to cocaine in adult rats. *Pharmacol. Biochem. Behav.* 42: 509-515, 1992.
26. **Peris, J.** & Scott, J. FG7142 causes opposite changes in ³H-GABA release from nigrocollicular regions. *Pharmacol. Biochem. Behav.* 44: 333-338, 1993.
27. Pecins-Thompson, M. & **Peris, J.** Behavioral and neurochemical changes caused by repeated ethanol and cocaine administration. *Psychopharmacology* 110: 443-450, 1993.
28. **Peris, J.** Antagonist inhibition of the GABA_A-mediated chloride uptake is atypical in nigrocollicular areas. *Life Sciences* 53: 707-716, 1993.
29. Tremwel, M., Hunter, B. E. & **Peris, J.** Chronic ethanol exposure enhances ³H-GABA release and does not affect GABA_A receptor mediated ³⁶Cl uptake. *Synapse* 17: 149-154, 1994.
30. Brazeau, G. A., Al-Sawayeh, S., **Peris, J.**, Hunter, B., & Walker, D. Creatine kinase release from isolated EDL muscles in chronic alcohol-treated rats. *Alcohol* 12: 145-149, 1995.
31. **Peris, J.** Repeated cocaine injections decrease the function of striatal GABA_A receptors. *J. Pharmacol. Exp. Ther.* 276: 1002-1008, 1996.
32. **Peris, J.**, Anderson, K. A., Vickroy, T.W., King, M.A., Hunter, B.E. & Walker, D.W. Neurochemical basis of disruption of hippocampal long term potentiation by chronic alcohol exposure. *Frontiers in Bioscience* 2: 308-316, 1997.
33. **Peris, J.**, Eppler, B., Hu, M., Walker, D. W., Hunter, B., Mason, K. & Anderson, K. J. The effects of chronic ethanol exposure on GABA receptors and GABA_B modulation of ³H-GABA release in the hippocampus. *Alcohol: Clin. Exp. Res.* 21: 1047-1052, 1997.
34. **Peris, J.**, Sealey, S., Jung, B. & Gridley, K. Simultaneous cocaine exposure abolishes ethanol tolerance. *Behavioral Pharmacology* 8: 319-330, 1997.
35. **Peris, J.**, Jung, B. J., Resnick, A., Walker, P., Malakhova, O., Bokrand, Y. & Wielbo, D. Antisense inhibition of striatal GABA_A receptor proteins decreases GABA-stimulated chloride uptake and increases cocaine sensitivity in rats. *Mol. Brain Res.* 57: 310-320, 1998.
36. Jung, B. J., Dawson, R., Sealey, S. A. & **Peris, J.** Endogenous GABA release is reduced from the striatum of cocaine sensitized rats. *Synapse* 34: 103-110, 1999.

37. Resnick, A. C., Homanics, G. E., Jung, B. J. & **Peris, J.** Increased acute cocaine sensitivity and decreased cocaine sensitization in GABA_A receptor α_3 subunit knockout mice. *J. Neurochem.* 73: 1539-1548, 1999.
38. Hu, M., Walker, D. W., Vickroy, T. W. & **Peris, J.** Chronic ethanol exposure changes presynaptic muscarinic receptor modulation of ³H-GABA release in rat hippocampus. *Alcohol: Clin. Exp. Res.*, 23: 1587-1595, 1999.
39. Jung, B. J. & **Peris, J.** Allosteric modulation of striatal GABA_A receptor binding and function after cocaine sensitization. *Pharmacol. Biochem. Behav.*, 70: 55-63, 2001.
40. Smith, A., Kennedy, R.T., Watson, C. J. & **Peris, J.** Ethanol-induced taurine efflux: Low dose effects and high temporal resolution. In: Lombardini, J. B., Schaffer, S. W. & Azuma, J. (Eds.) *Taurine 5*: Plenum: New York, pps. 485-492, 2003.
41. Dominy, J., Thinschmidt, J. S., **Peris, J.**, Dawson, R., & Papke R. L. Taurine-induced long-lasting potentiation in the rat hippocampus shows a partial dissociation from total hippocampal taurine content and independence from activation of known taurine transporters. *J. Neurochem.* 89: 1195-1205, 2004
42. Shou, M., Smith, A.D., Shackman, J.G., **Peris, J.** & Kennedy, R.T. *In vivo* monitoring of amino acids by microdialysis sampling with on-line derivatization by naphthalene-2,3-dicarboxyaldehyde and rapid micellar electrokinetic capillary chromatography. *J. Neurosci. Meth.* 138: 189-197, 2004.
43. Smith, A. D., Watson, C. J., Frantz, K. J., Eppler, B., Kennedy, R. T. & **Peris, J.** Differential increase in taurine levels by low dose ethanol in the dorsal and ventral striatum revealed by microdialysis with on-line capillary electrophoresis. *Alcohol: Clin. Exp. Res.* 28: 1028-1038, 2004.
44. Nakano, Y., Hirko, A.C., Smith, A.D., Oka, M., Dawson, R., **Peris, J.**, Terado, N. & Meyer, E.M. Presynaptic dopaminergic properties of differentiated mouse embryonic stem cells. *Neuroscience Int.* 45: 1067-1073, 2004.
45. Yang, S., Lee, Y. J., Kimm, J-M., Park, S., **Peris, J.**, Laipis, P., Park, Y. S., Chung, J. H., & Oh, S. P. A murine model for human sepiapterin reductase deficiency. *Am. J. Human Genetics* 78:575-87, 2006.
46. Li, Y., **Peris, J.** & Derendorf, H. Microdialysis as a tool in local pharmacodynamics. *AAPS Journal* 8: E222-235, 2006.
47. **Peris, J.**, Zharikova, A., Lingis, M., Li, Z., MacNeill, M., Wu, M. T. & Rowland, N. Brain ethanol levels in rats after voluntary ethanol consumption using a sweetened gelatin vehicle. *Pharmacol. Biochem. Behav.* 85: 562-568, 2006.

48. Ramirez, H. E., Esperon, L. & **Peris, J.** Effects of an enrichment device on voluntary alcohol consumption on single-housed rats. *JAALAS*, 47:24-29, 2008, 2008.
49. Li, Z., Zharikova, A., Bastian, J., Esperon, L., Hebert, N., Mathes, C., Rowland N. E. & **Peris, J.** High temporal resolution of amino acid levels in rat nucleus accumbens during operant ethanol self-administration: Involvement of elevated glycine in anticipation. *J. Neurochemistry*, in press, 2008.
50. Smith, A.D., Shou, M., Shackman, J.G., Kennedy, R.T. & **Peris, J.** Ethanol-induced taurine efflux in the nucleus accumbens is mediated via calcium-dependent osmotically activated channels. *Alcohol. Alcoholism*, under review, 2008.
51. Li, Z., Zharikova, A., Vaughan, C. H., Rowland N. E. & **Peris J.** Persistent increase in breakpoints for self administration of ethanol-containing gelatin in rats following intermittent high dose ethanol exposure. *J. Neurosciences*, under review, 2008.

ABSTRACTS/PRESENTATIONS

Peris, J. & Cunningham, C. L. Dissociation of tolerance in two autonomic systems. *Alcoholism: Clin. Exp. Res.* 8: 112, 1984.

Peris, J. & Cunningham, C. L. The interaction of ethanol and stress on body temperature in rats. *Soc. Neurosci. Abstr.* 10: 571, 1984.

Peris, J., R. A. Harris, & Zahniser, N. R. The calcium dependency of [³H]-GABA release evoked by electrical or potassium stimulation. *Soc. Neurosci. Abstr.* 11: 283, 1985.

Peris, J., Dvoskin, L. P., & Zahniser, N. R. Biphasic modulation of [³H]D-aspartate release by D₂ dopamine receptors in rat striatal slices. *Soc. Neurosci. Abstr.* 12: 489, 1986.

Peris, J. & Zahniser, N. R. Augmentation of amphetamine-stimulated [³H]-dopamine release after one injection of cocaine: Do other dopamine uptake blockers, dopamine receptor agonists and local anesthetics mimic this effect? *Soc. Neurosci. Abstr.* 13: 479, 1987.

Peris, J., Harris, R.A. & Zahniser, N.R. [³⁵S]TBPS binding is altered in mice selected for alcohol sensitivity. *Alc. Clin. Exp. Res.*, 12: 308, 1988.

Peris, J. & Zahniser, N. R. [³⁵S]-TBPS binding sites are decreased in the colliculi of mice with high sensitivity to ethanol. *Soc. Neurosci. Abstr.* 14: 344, 1988.

Zahniser, N. R., **Peris, J.**, & Curella, P. Delayed increase in amphetamine-induced release of dopamine from striatum following repeated cocaine administration. *Soc. Neurosci. Abstr.* 14: 659, 1988.

Peris, J. & Dawson, R. Persistent changes in brain catecholamine and monoamine levels after chronic cocaine administration. *Soc. Neurosci. Abstr.* 15, 1091, 1989.

Peris, J. & Coleman, M. Ethanol inhibition of ³H-GABA release from substantia nigra in ethanol-withdrawn rats. *Alcohol: Clin. Exp. Res.*, 14: 327, 1990.

Peris, J. Enhancement or inhibition of [³⁵S]-TBPS binding by bicuculline is region specific in rat brain. *Soc. Neurosci. Abstr.*, 16: 77, 1990.

Simpkins, J.W., **Peris, J.**, Decambre, N. & Coleman, M. Estradiol (E₂) enhances behavioral sensitization to cocaine. *Soc. Neurosci. Abstr.*, 16: 751, 1990.

Peris, J., Pecins, M., & Coleman-Hardee, M. Ethanol tolerance is abolished by concurrent cocaine exposure. *Alcohol: Clin. Exp. Res.*, 15: 331, 1991.

Coleman-Hardee, M., **Peris, J.** & Millard, W.J. Cocaine in utero enhances striatal dopamine release in adult rats. Soc. Neurosci. Abstr., 17: 579, 1991.

Peris, J., Coleman-Hardee, M. & Shawley, A. Ethanol-induced changes in ³H-GABA release from substantia nigra and superior colliculus. Soc. Neurosci. Abstr., 17: 1600, 1991.

Peris, J. Regionally selective effects of ethanol on GABA-stimulated ³⁶Cl uptake. Alcoholism: Clin. Exp. Res. 16: 356, 1992.

Peris, J., Burry, J., Iyer, S. & Scott, J. Ethanol enhances the behavioral effects of cocaine at very low doses. Soc. Neurosci. Abstr. 18: 724, 1992.

Peris, J. Regionally selective effects of acute and chronic ethanol on GABA-stimulated ³⁶Cl uptake. 1993 Gordon Research Conference on Alcohol, Oxnard, CA.

Peris, J. & Scott, J. Cocaine-induced locomotion and stereotypy are selectively affected by ethanol. Soc. Neurosci. Abstr. 19: 1858, 1993.

Hunter, B. E., Tremwel, M. & **Peris, J.** GABA_A receptor mediated ³⁶Cl uptake and [³H]GABA release in hippocampus following chronic ethanol exposure. Soc. Neurosci. Abstr. 19: 594, 1993.

Steck, J., Zuobi, K., Day, A., **Peris, J.**, Chandler, J. & Crews, F. T. Comparison of the effects of global ischemia on hippocampal morphology and glutamate receptor binding sites. Soc. Neurosci. Abstr. 19: 1655, 1993.

Peris, J., Roberts, S. M., Phillips, D. & Tebbett, I. Chronic ethanol exposure increases serum cocaine levels in rats. Alcoholism: Clin. Exp. Res. 18: 522, 1994.

Peris, J. & Geiss, U. Repeated cocaine injections decrease the function of striatal GABA_A receptors. Soc. Neurosci. Abstr. 20, 1634, 1994.

Peris, J., Gridley, K., Mannion, J. & Rill, M. Simultaneous cocaine exposure abolishes ethanol tolerance. Alcoholism: Clin. Exp. Res. 19: 67A, 1995.

Peris, J. & Wielbo, D. Intraventricular injection of antisense oligonucleotides for GABA_A receptor mRNA increases cocaine sensitivity in rats. Soc. Neurosci. Abstr. 21: 715, 1995.

Wielbo, D. & **Peris, J.** Antisense oligonucleotide inhibition of GABA_A receptor mRNA increases cocaine sensitivity in rats. Pharm. Res. 12: S-405, 1996.

Peris, J. Jung, B.J., Walker, P. A., Malakhova, Bokrand, Y. & Wielbo, D. Antisense inhibition of striatal GABA_A receptor proteins decreases GABA-stimulated chloride uptake and increases cocaine sensitivity in rats. Soc. Neurosci. Abstr. 22: 821, 1996.

Jung, B.J., Sealey, S. A., Walker, P. A., & **Peris, J.** Endogenous GABA release from striatal slices of cocaine sensitized rats. Soc. Neurosci. Abstr. 22: 929, 1996.

Jung, B. J., & **Peris, J.** The effects of cocaine and ethanol on GABA_A receptors. Alcoholism: Clin. Exp. Res. 21: 44A 1997.

Peris, J., Homanics, G. E. & Jung, B. J. Heterozygous knockout mice for the GABA_A receptor β_3 subunit have increased behavioral sensitivity to cocaine. Soc. Neurosci. Abstr. 23: 2411, 1997.

Hu, M., Walker, D. W., Vickroy, T. W. & **Peris, J.** Chronic ethanol exposure changes cholinergic receptor modulation of ³H-GABA release in rat hippocampus. Alcoholism: Clin. Exp. Res. 22: 11a, 1998.

Jung, B. J., Dawson, R. & **Peris, J.** Effects of cocaine sensitization and in vitro cocaine on striatal GAD activity. Soc. Neurosci. Abstr. 24: 497, 1998.

Resnick, A. C., Jung, B. J., Homanics, G. E. & **Peris, J.** GABA_A β_3 knockout increases cocaine sensitivity but decreases cocaine sensitization. Soc. Neurosci. Abstr. 24: 996, 1998.

Hu, M., Walker, D. W., Vickroy, T. W. & **Peris, J.** Chronic ethanol exposure changes presynaptic muscarinic receptor modulation of ³H-GABA release in rat hippocampus. Soc. Neurosci. Abstr. 24: 1962, 1998.

Eppler, B, Dawson, R., Walker, D. W. & **Peris, J.** Chronic ethanol treatment increases taurine content in striatum of Long Evans rats. Alcoholism: Clin. Exp. Res. 23: 97a, 1999.

Jung, B. J. & **Peris, J.** Clonazepam modulation of GABA_A receptor function after repeated cocaine. Soc. Neurosci. Abstr. 25: 815, 1999.

Hu, M., Walker, D. W., Vickroy, T. W. & **Peris, J.** M1 muscarinic receptors inhibit while M2 muscarinic receptors increase ³H-GABA release in rat hippocampus: Effects of chronic ethanol. Soc. Neurosci. Abstr. 25: 1074, 1999.

Peris, J., Riffle, C., Dhople, A. & Wood, C. E. Arachidonic acid metabolites inhibit GABA_A receptor function. Soc. Neurosci. Abstr. 25: 1481, 1999.

Eppler, B., Dawson, R., Walker, D. & **Peris, J.** Chronic ethanol treatment increases taurine content in striatum of Long Evans rats. Soc. Neurosci. Abstr. 25: 1576, 1999.

Eppler, B., Dawson, R., Smith, A. & **Peris, J.** Chronic ethanol treatment increases striatal taurine content levels but does not alter the taurine transporter. Alcoholism: Clin. Exp. Res. 24:122A, 2000.

Peris, J., Eppler, B., Ammini, A., Smith, A. & Henderson, G. Cocaine sensitization alters gene expression in the rat striatum. Soc. Neurosci. Abstr. 26: 525, 2000.

Eppler, B., Dawson, R., Smith, A. & **Peris, J.** Changes in taurine homeostasis in rats chronically treated with ethanol. Soc. Neurosci. Abstr. 26: 1819, 2000.

Smith, A., Frantz, K., Eppler, B., Dawson, R., Gonzales, R. & **Peris, J.** Ethanol exposure dose-dependently increases taurine efflux in the dorsal striatum of rats. Alcoholism: Clin. Exp. Res. 25: S143, 2001.

Frantz, K., Eppler, B., Smith, A., Gonzales, R., & **Peris, J.** Ethanol exposure leads to increased taurine in the striatum of rats. Drug Alcohol Dependence 63(S1): S50, 2001.

Smith A., Watson C. J., Kennedy R. T. & **Peris J.** On-line capillary electrophoresis with laser-induced fluorescence detection of increased taurine efflux by low dose ethanol in the nucleus accumbens. Alcoholism: Clin. Exp. Res. 26: S78, 2002.

Peris J., Smith A, Watson C J, & Kennedy RT. On-line capillary electrophoresis with laser-induced fluorescence detection of increased taurine and glutamate efflux by self-administered ethanol in the nucleus accumbens. Soc. Neurosci. Abstr. 28: 309.7, 2002.

Smith, A., Watson, C. J., Kennedy, R. T. & **Peris, J.** Calcium dependency of ethanol-induced taurine efflux in the nucleus accumbens *via* on-line capillary electrophoresis with laser-induced fluorescence detection. Alcoholism: Clin. Exp. Res. 27: S142, 2003.

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CURRENT AND FUTURE RESEARCH PLANS

My long-term career goal is to continue my research on the neurochemical basis for behavioral changes induced by repeated exposure to drugs of abuse. During my graduate training in psychology, I asked what behavioral changes took place in response to repeated ethanol exposure thereby characterizing the development of tolerance. I was interested in behaviors mediated by both the autonomic and central nervous systems and therefore employed automatic monitoring of heart rate, body temperature and bar pressing as indicators of changes in ethanol sensitivity. During my post-doctoral training in pharmacology, I focused on two projects that measured changes in neurotransmitter release and receptors caused by chronic drug exposure. In one study, I compared the density and affinity of binding sites on the GABA_A receptors of mice selectively bred for differences in sensitivity to alcohol. The second was a comprehensive study of the neurochemical changes in the nigrostriatal dopaminergic system underlying behavioral sensitization to repeated exposure to cocaine including assays of stereotypic behavior, dopamine uptake, dopamine release and D₂-dopamine receptors.

Since moving to the University of Florida, I have received funding from NIAAA to study the neurochemical basis for a number of behavioral changes induced by chronic ethanol exposure and withdrawal. In one project (AA 08262), increased seizure susceptibility caused by ethanol withdrawal was related to changes in modulation of striatonigral and nigrocollicular GABA transmission. These studies also provided evidence for functionally heterogeneous isoforms of the GABA_A receptor complex caused by differential protein subunit composition. The second project (AA 09115) determined changes in excitatory and inhibitory transmission in hippocampus after chronic ethanol exposure that may account for decreases in long-term potentiation and memory decrements caused by such treatment.

My lab is actively studying the neurochemical mechanisms of ethanol addiction (AA014708). As part of this research, we measure how dopaminergic and amino acid neurotransmission in brain regions highly implicated in the addiction process (e.g., nucleus accumbens, central nucleus of the amygdala) are altered in rats self-administering ethanol. As pioneered by Dr. R. T. Kennedy, the combination of in vivo microdialysis in awake behaving animals with on-line capillary electrophoresis separation and laser-induced fluorescence detection of neuroactive substances provides a remarkable insight into ethanol-induced changes in neurotransmission. In particular, the ability to measure second-to-second fluctuations in dopamine, taurine and other amino acids during periods of ethanol craving and subsequent self-administration will be important in helping delineate the neurochemical mechanisms underlying the addictive process. In collaboration with Dr. Neil Rowland of the UF Department of Psychology, we induce rats to willingly and reliably self-administer ethanol without food or liquid deprivation and then implant cannula into the relevant brain regions of the animals. So far, we have revealed some very novel findings about the time course of changes in taurine and dopamine in the first few minutes after both ethanol injections and self-administered ethanol in naïve and alcoholic rats.

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