

**DENNIS K. MILLER**

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Department of Psychological Sciences  
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**Education**

University of Kentucky, Lexington KY  
1993      *B.A., Psychology*

Texas A&M University, College Station TX  
1997      *M.S., Psychology; Thesis Title: "Effects of chronic cadmium exposure on the conditioned reinforcing properties of morphine and fentanyl in rats"*  
*Advisor: Jack R. Nation*

1999      *Ph.D., Psychology; Dissertation Title: "Effects of developmental lead exposure on cocaine-induced behaviors"*  
*Advisor: Jack R. Nation*

**Professional Experiences**

W. I. L. Laboratories, Ashland OH  
1994-1995      *Developmental and Reproductive Toxicology Division - Research Technologist*

University of Kentucky, Lexington KY  
1999-2002      *College of Pharmacy (Linda P. Dwoskin, mentor) - Postdoctoral Fellow*

Georgetown College, Georgetown KY  
2000-2002      *Department of Psychology – Instructor of Introduction to Psychology*

University of Missouri, Columbia MO  
2002-2008      *Department of Psychological Sciences - Assistant Professor*  
2002-present      *Interdepartmental Neuroscience Program – Faculty Member*  
2007-present      *Bond Life Sciences Center - Investigator*  
2008-present      *Department of Psychological Sciences - Associate Professor*  
2010-present      *Center for Translational Neuroscience – Investigator*  
2010-present      *Neurobehavioral Core – Director*

Stephens College, Columbia MO  
2007 Department of Psychology – Instructor of Physiological Psychology

Columbia College, Columbia MO  
2008-present Summer Campus – Instructor of Neuroscience and Psychopharmacology

### **Teaching Experiences and Accomplishments**

#### **Teaching Experience**

Texas A&M University, College Station TX (1997-1999)  
*Psychology of Learning (undergraduate)*  
*Physiological Psychology (undergraduate)*

Georgetown College, Georgetown KY (2000-2002)  
*Introduction to Psychology (undergraduate)*

University of Missouri, Columbia MO (2002-present)  
*Drugs and Behavior (undergraduate and online)*  
*Functional Neuroscience (graduate)*  
*General Psychology (undergraduate)*  
*Learning, Memory and Cognition (undergraduate and online)*  
*Psychopharmacology (graduate)*

Stephens College, Columbia MO (2007)  
*Physiological Psychology (undergraduate)*

Columbia College, Columbia MO (2008-present)  
*Neuroscience (undergraduate evening campus)*  
*Psychopharmacology (undergraduate evening campus)*

### **Research Experiences and Accomplishments**

#### **Professional Organization Memberships**

Member, American Society for Pharmacology and Experimental Therapeutics  
*Member, Behavioral Neuroscience and Toxicology Divisions*

Member, American Society for Neurochemistry

Member, Midwest Psychological Association

Member, Society for Neuroscience

*Chapter President (2008 – 2010), Central Missouri Chapter of the Society for Neuroscience*

#### **Research Publications in Peer-Reviewed Journals**

1. Miller, D. K., & Nation, J. R. (1997). Chronic cadmium exposure attenuates the conditioned reinforcing properties of morphine and fentanyl. *Brain Research*, 776, 162-169.

2. Nation, J. R., Miller, D. K., & Livermore, C. L. (1997). Chronic exposure to cadmium prevents behavioral sensitization to morphine. *Psychopharmacology*, 131(3), 248-254.
3. Nation, J. R., Wellman, P. J., Livermore, C. L., Miller, D. K., & Bratton, G. R. (1997). Brain and plasma levels of cocaine and benzoylecgonine in lead-exposed and cadmium-exposed rats following acute or chronic intraperitoneal administration of cocaine. *Toxicology Letters*, 92, 47-57.
4. Miller, D. K., McMahon, L. R., Green, T. A., Nation, J. R., & Wellman, P. J. (1998). Repeated administration of ephedrine induces behavioral sensitization in rats. *Psychopharmacology*, 140(1), 52-56.
5. Wellman, P. J., Miller, D. K., Livermore, C. L., Green, T. A., McMahon, L. R., & Nation, J. R. (1998). Effects of (-)-ephedrine on locomotion, feeding, and nucleus accumbens dopamine in rats. *Psychopharmacology*, 135(2), 133-140.
6. Miller, D. K., Nation, J. R., & Wellman, P. J. (1999). Sensitization of anorexia and locomotion induced by chronic administration of ephedrine in rats. *Life Sciences*, 65(5), 501-511.
7. Nation, J. R., & Miller, D. K. (1999). The effects of cadmium contamination on the discriminative stimulus properties of cocaine and related drugs. *Experimental and Clinical Psychopharmacology*, 7(2), 90-102.
8. Miller, D. K., Palme, K. M., Najvar, S. A., Caudill, S. D., & Nation, J. R. (1999). Chronic cadmium exposure attenuates the conditioned reinforcing properties of cocaine and related drugs in rats. *Pharmacology, Biochemistry and Behavior*, 64(1), 15-20.
9. Miller, D. K., Crooks, P. A., & Dwoskin, L. P. (2000). Lobeline inhibits nicotine-evoked [<sup>3</sup>H]dopamine overflow from rat striatal slices and nicotine-evoked <sup>86</sup>Rb<sup>+</sup> efflux from thalamic synaptosomes. *Neuropharmacology*, 39(13), 2654-2662.
10. Miller, D. K., Nation, J. R., & Bratton, G. R. (2000). Perinatal exposure to lead attenuates the conditioned reinforcing properties of cocaine in rats. *Pharmacology, Biochemistry and Behavior*, 67(1), 111-119.
11. Miller, D. K., Nation, J. R., Jost, T. E., Schell, J. B., & Bratton, G. R. (2000). Differential effects of adult and perinatal lead exposure on morphine-induced locomotor activity in rats. *Pharmacology, Biochemistry and Behavior*, 67(2), 281-290.
12. Nation, J. R., Miller, D. K., & Bratton, G. R. (2000). Developmental lead exposure alters the stimulatory properties of cocaine at PND 30 and PND 90. *Neuropsychopharmacology*, 23(4), 444-454.
13. Nation, J. R., Miller, D. K., & Bratton, G. R. (2000). Dietary cadmium exposure alters characteristics of training, substitution, and tolerance when morphine is used as a discriminative stimulus. *Neurotoxicology*, 21(4), 553-568.
14. Ghosheh, O. A., Dwoskin, L. P., Miller, D. K., & Crooks, P. A. (2001). Accumulation of nicotine and its metabolites in rat brain after intermittent or continuous peripheral administration of [2'-<sup>14</sup>C]-Nicotine. *Drug Metabolism and Disposition*, 29(5), 645-651.
15. Miller, D. K., Crooks, P. A., Teng, L., Witkin, J. M., Munzar, P., Goldberg, S. R., Acri, J. B., & Dwoskin, L. P. (2001). Lobeline inhibits the neurochemical and behavioral effects of amphetamine. *Journal of Pharmacology and Experimental Therapeutics*, 296(3), 1023-1034.
16. Miller, D. K., Nation, J. R., & Bratton, G. R. (2001). The effects of perinatal exposure to lead on the discriminative stimulus properties of cocaine and related drugs in rats. *Psychopharmacology*, 158, 165-174.

17. Miller, D. K., Wilkins, L. H., Bardo, M. T., Crooks, P.A., & Dwoskin, L. P. (2001). Once weekly administration of nicotine produces long-lasting locomotor sensitization in rats *via* a nicotinic receptor-mediated mechanism. *Psychopharmacology*, 156, 469-476.
18. Miller, D. K., Harrod, S. B., Green, T. A., Wong, M. Y., Bardo, M. T., & Dwoskin, L. P. (2002). Lobeline attenuates stimulation induced by repeated nicotine administration in rats. *Pharmacology, Biochemistry and Behavior*, 74(2), 279-286.
19. Miller, D. K., Sumithran, S. P., & Dwoskin, L. P. (2002). Bupropion inhibits nicotine-evoked [<sup>3</sup>H]overflow from rat striatal slices preloaded with [<sup>3</sup>H]dopamine and from rat hippocampal slices preloaded with [<sup>3</sup>H]norepinephrine. *Journal of Pharmacology and Experimental Therapeutics*, 302, 1113-1122.
20. Miller, D. K., Wong, E. H. F., Chesnut, M. D., & Dwoskin, L. P. (2002). Reboxetine: functional inhibition of monoamine transporters and nicotinic acetylcholine receptors. *Journal of Pharmacology and Experimental Therapeutics*, 302, 687-695.
21. Wellman, P. J., Jones, S. L., & Miller, D. K. (2003). Effects of pre-exposure to dexfenfluramine, phentermine, dexfenfluramine-phentermine or fluoxetine on sibutramine-induced hypophagia in the adult rat. *Pharmacology, Biochemistry and Behavior*, 75(1), 103-114.
22. Wellman, P. J., Miller, D. K., & Ho, D. H. (2003). Noradrenergic modulation of ephedrine-induced hypophagia. *Synapse*, 48 (1), 18-24.
23. Miller, D. K., Crooks, P. A., Zheng, G., Grinevich, V. P., Norrholm, S. D., & Dwoskin, L. P. (2004). Lobeline analogs with enhanced affinity and selectivity for plasmalemma and vesicular monoamine transporters. *Journal of Pharmacology and Experimental Therapeutics*, 310, 1035-1045.
24. Miller, D. K., Dopheide, M. M., Smith, S. M., & Casteel, S. W. (2005). Dietary cadmium exposure attenuates *d*-amphetamine-evoked [<sup>3</sup>H]dopamine release from rat striatal slices and methamphetamine-induced hyperactivity in rats. *Pharmacology, Biochemistry and Behavior*, 80(4), 557-566.
25. Miller, D. K. & Segert, I. L. (2005). Mecamylamine attenuates ephedrine-induced hyperactivity in rats. *Pharmacology, Biochemistry and Behavior*, 81(1), 165-169.
26. Wang, Q., Simonyi, A., Jensen, M. D., Shelat, P. B., Rottinghaus, G. E., Mac Donald, R. S., Miller, D. K., Lubahn, D. E., Weisman, G. A., Sun, A. Y., & Sun, G. Y. (2005). Curcumin ameliorates global cerebral ischemia-induced neuronal apoptosis and behavioral deficits: Suppression of oxidative stress and mitochondria dysfunction. *Journal of Neuroscience Research*, 82, 138-148.
27. Cunningham, C. S., Polston, J. E., Jany, J. R., Segert, I. L., & Miller, D. K. (2006). Interaction of lobeline and nicotinic receptor ligands with the discriminative stimulus properties of cocaine and amphetamines. *Drug & Alcohol Dependence*, 84(3), 211-222.
28. Polston, J. E., Cunningham, C. S., Rodvelt, K. R., & Miller, D. K. (2006). Lobeline potentiates and inhibits cocaine-induced hyperactivity in rats. *Life Sciences*, 79(10), 981-990.
29. Wilkins, L. H., Miller, D. K., Ayers, J. T., Crooks, P. A., & Dwoskin, L. P. (2006). N-n-Alkylnicotinium analogs, a novel class of antagonists at  $\alpha 4\beta 2^*$  nicotinic acetylcholine receptors: inhibition of S(-)-nicotine-evoked <sup>86</sup>Rb<sup>+</sup> efflux from rat thalamic synaptosomes. *The AAPS Journal*, 7(4), E922-E930.
30. Dopheide, M. M., Morgan, R. E., Rodvelt, K. R., Schachtman, T. R., & Miller, D. K. (2007). Modafinil evokes striatal [<sup>3</sup>H]dopamine release and alters the subjective properties of stimulants. *European Journal of Pharmacology*, 568(1-3), 112-123.

31. Miller, D. K., Lever, J. R., Rodvelt, K. R., Baskett, J. A., Will, M. J., & Kracke, G. R. (2007). Lobeline, a potential pharmacotherapy for drug addiction, binds to  $\mu$  opioid receptors and diminishes the effects of opioid receptor agonists. *Drug & Alcohol Dependence*, 89, 282-291.
32. Miller, D. K., Rodvelt, K. R., Constales, C. & Putnam, W. C. (2007). Analogs of SR-141716A (Rimonabant) alter *d*-amphetamine-evoked [ $^3$ H]dopamine overflow from preloaded striatal slices and amphetamine-induced hyperactivity. *Life Sciences*, 81(1), 63-71.
33. Rodvelt, K. R., Bumgarner, D. M., Putnam, W. C., & Miller, D. K. (2007). WIN-55,212-2 and SR-141716A alter nicotine-induced changes in locomotor activity, but do not alter nicotine-evoked [ $^3$ H]dopamine release. *Life Sciences*, 80(4), 337-344.
34. Wang, Q., Sun, A. Y., Simonyi, A., Kalogeris, T. J., Miller, D. K., Sun, G. Y., & Korthius, R. J. (2007). Ethanol preconditioning protects against ischemia/reperfusion-induced brain damage: Role of NADPH oxidase-derived ROS. *Free Radical Biology and Medicine*, 43, 1048-1060.
35. Rodvelt, K. R., Kracke, G. R., Schachtman, T. R. & Miller, D. K. (2008). Ketamine induces hyperactivity in rats and hypersensitivity to nicotine in rat striatal slices. *Pharmacology, Biochemistry and Behavior*, 91(1), 71-76.
36. Rodvelt, K. R., Schachtman, T. R., Kracke, G. R. & Miller, D. K. (2008). NMDA receptor blockade augmented nicotine-evoked dopamine release from rat prefrontal cortex slices. *Neuroscience Letters*, 440(3), 319-322.
37. Wang, Q., Sun, A. Y., Simonyi, A., Miller, D. K., Smith, R. E., Luchtefeld, R. G., Korthuis, R. J., & Sun, G. Y. (2009) Oral administration of grape powder extract ameliorates cerebral ischemia/reperfusion-induced neuronal damage and behavioral deficits in gerbils: Comparison of pre- and post-ischemic administration. *Journal of Nutritional Biochemistry*, 20(5):369-77.
38. Hart, N., Rocha, A., Miller, D. K., & Nation, J. R. (2010). Dose dependent attenuation of heroin self-administration with lobeline. *Journal of Psychopharmacology*, 24(1): 51-55.
39. Hojahmat, M., Horton, D. B., Norrholm, S. D., Miller, D. K., Grinevich, V. P., Deaciuc, A. G., Dwoskin, L. P., & Crooks, P. A. (2010). Lobeline esters as novel ligands for neuronal nicotinic acetylcholine receptors and neurotransmitter transporters. *Bioorganic Medicinal Chemistry*, 18(2): 640-649.
40. Rodvelt, K. R. & Miller, D. K. (2010). Could sigma receptor ligands be a treatment for methamphetamine addiction? *Current Drug Abuse Reviews*, 3(3):156-162.
41. Miller, D. K., Polston, J. E., Rodvelt, K. R., & Will, M. J. (2011). Lobeline attenuates the locomotor-activating properties of repeated morphine treatment in rats. *Tropical Journal of Pharmaceutical Research*, 10(4): 421-429.
42. Rodvelt, K. R., Lever, S. Z., Lever, J. R., Blount, L. R., Fan, K.-H., & Miller, D. K. (2011). SA 4503 attenuates cocaine-induced hyperactivity and enhances methamphetamine substitution for a cocaine discriminative stimulus. *Pharmacology, Biochemistry and Behavior*, 97(4): 676-682.
43. Rodvelt, K. R., Oelrichs, C. E., Blount, L. R., Fan, K.-H., Lever, S. Z., Lever, J. R., & Miller, D. K. (2011). The sigma receptor agonist SA4503 both attenuates and enhances the effects of methamphetamine. *Drug and Alcohol Dependence*, 116(1-3): 203-210.
44. Walker, J. M, Fowler, S. W., Miller, D. K., Sun, A. Y., Weisman, G. A., Wood, W. G., Sun, G. Y., Simonyi, A., & Schachtman, T. R. (2011). Spatial learning and memory impairment and increased locomotion in a transgenic amyloid precursor protein mouse model of Alzheimer's disease. *Behavioural Brain Research*, 222(1): 169-175.

45. Miller, D. K., Oelrichs, C. E., Sage, A. S., Sun, G. Y., & Simonyi, A. (2013). Repeated resveratrol treatment attenuates methamphetamine-induced hyperactivity and [<sup>3</sup>H]dopamine overflow in rodents. *Neuroscience Letters*, 54: 53-58.
46. Sage, A. S., Oelrichs, C. E., Davis, D. C., Fan, K.-H., Nahas, R. I., Lever, S. Z., Lever, J. R., & Miller, D. K. (2013). Effects of *N*-phenylpropyl-*N'*-substituted piperazine sigma receptor ligands on cocaine-induced hyperactivity in mice. *Pharmacology, Biochemistry and Behavior*, 110: 201-207.
47. Sage, A. S., Vannest, S. C., Fan, K.-H., Will, M. J., Lever, S. Z., Lever, J. R., & Miller, D. K. (2013). *N*-phenylpropyl-*N'*-(3-methoxyphenethyl)piperazine (YZ-185) attenuates the conditioned-rewarding properties of cocaine in mice. *ISRN Pharmacology*, vol. 2013, Article ID 546314.
48. Judd, J. M. & Miller, D. K. (2014). Is there a role for resveratrol and sirtuins in the treatment of cocaine and methamphetamine addiction? *World Journal of Pharmaceutical Sciences*, 2(7): 595-596.
49. Lever, J. R., Miller, D. K., Green, C. L., Ferguson-Cantrell, E. A., Watkinson, L. D., Carmack, T. L., Fan, K.-H., & Lever, S. Z. (2014). A selective sigma-2 receptor ligand antagonizes cocaine-induced hyperlocomotion in mice. *Synapse*, 68(2): 73-84.
50. Miller, D. K., Oelrichs, C. E., Sun, G. Y., & Simonyi, A. (2014). Subchronic apocynin treatment attenuates methamphetamine-induced dopamine release and hyperactivity in rats. *Life Sciences*, 98(1): 6-11.

### Book Chapters

1. Miller, D. K. (2006). Review of research on lobeline, a potential pharmacotherapy for methamphetamine abuse. In G. H. Toolaney (Ed.), *New Research in Methamphetamine Abuse* (pp. 99-122). Hauppauge, NY: Nova Science Publishers.
2. Miller, D. K. & Dopheide M. M. (2010). Modafinil: A wake-promoting stimulant with multiple clinical uses. In G. Santos & L. Villalaba (Eds.), *Narcolepsy: Symptoms, Causes and Diagnosis* (pp. 35-65). Hauppauge, NY: Nova Science Publishers.
3. Davis, D. C., Sage, A. S., & Miller, D. K. (2012). Impact of methamphetamine on dopamine storage and release. In J. Ornoy & X. He (Eds.), *Methamphetamines: Abuse, Health Effects and Treatment Options* (pp. 169-186). Hauppauge, NY: Nova Science Publishers.
4. Oelrichs, C. E., Simmons, A. S., Myer, S. L., Davis, D. C., Sage, A. S., Rodvelt, K. R., & Miller, D. K. (2012). Sigma receptors are a potential target for methamphetamine abuse and dependence pharmacotherapies. In J. Ornoy & X. He (Eds.), *Methamphetamines: Abuse, Health Effects and Treatment Options* (pp. 83-106). Hauppauge, NY: Nova Science Publishers.
5. Sage, A. S. & Miller, D. K. (2012). What can rodent activity tell us about methamphetamine abuse and dependence? In J. Ornoy & X. He (Eds.), *Methamphetamines: Abuse, Health Effects and Treatment Options* (pp. 47-82). Hauppauge, NY: Nova Science Publishers.

### Manuscripts In Preparation and/or Under Review

1. Brown, J. D., Filipi, A. I., Wilding, R., Miller, D. K., & Booth, F. W. (2014). Rats selectively bred for low and high voluntary running exhibit inherent differences in performance in elevated plus maze, forced swim test, and thermal stimulation tests. Manuscript submitted to *Behavioral Genetics* for review (May 2014).

2. Brown, J. D., Green, C. L., Arthur, I. M., Booth, F. W., & Miller, D. K. (2014). Selective breeding for low and high voluntary running behavior co-selects for differences in novelty-induced and cocaine-induced locomotor activity. Revised manuscript submitted to *Psychopharmacology* for second review (July 2014).
3. Lever, J. R., Miller, D. K., Ferguson-Cantrell, E. A., Green, C. L., Watkinson, L. D., Carmack, T. L., & Lever, S. Z. (2014). Correlation of sigma-1 receptor occupancy in vivo by PD144418 (1,2,3,6-tetrahydro-5-[3-(4-methylphenyl)-5-isoxazolyl]-1-propylpyridine) with attenuation of cocaine's motor stimulatory effects. Manuscript submitted to *Journal of Pharmacology and Experimental Therapeutics* for review (May 2014).
4. Pollock, K. E., Stevens, D., Pennington, K. A., Thaisrivongs, R., Ellersieck, M. R., Miller, D. K., & Clamon Schulz, L. (2014). Hyperleptinemia during pregnancy increases offspring activity and protects offspring from developing obesity during adulthood. Manuscript in preparation.

### Patents

1. Crooks, P.A., Dwoskin, L., Miller, D. K., Grinevich, V. P., Norrholm, S. D., & Zheng, G. 2,6-Distributed piperidines as modulators of nicotinic acetylcholine receptor mediated neurotransmitter release, uptake and storage. United States Patent #6,703,406 (3/9/2004).

### Presentations

1. "Chronic cadmium exposure attenuates morphine conditioned place preference", Southwestern Psychological Association Annual Meeting, Fort Worth, TX, April 1997.
2. "Effect of developmental lead exposure on drug-induced behaviors", College of Pharmacy, University of Kentucky, March 1999.
3. "Effect of developmental lead exposure on drug-induced behaviors", Department of Environmental Medicine, University of Rochester School of Medicine and Dentistry, March 1999.
4. "Effects of lobeline on methamphetamine and nicotine-induced hyperactivity and sensitization", College of Problems in Drug Dependence Annual Meeting, San Juan, PR, June 2000.
5. "Assessment of lobeline and lobeline analogs as a treatment of psychostimulant abuse", College of Pharmacy A.G.S. Seminar, University of Kentucky, November 2001.
6. "Development of lobeline analogs as a therapy for psychostimulant abuse", Department of Psychological Sciences, University of Missouri, December 2001.
7. "Development of lobeline analogs as a therapy for psychostimulant abuse", Department of Psychology, University of Kentucky, January 2002.
8. "Assessment of lobeline and lobeline analogs as a treatment of psychostimulant abuse", Department of Biomedical Sciences, Marquette University, February 2002.
9. "Mechanism of bupropion and reboxetine antagonism of nicotinic receptors in rat brain", College on Problems in Drug Dependence Annual Meeting, Quebec City, QC, June 2002.
10. "The role of nicotinic receptors in the behavioral properties of ephedra", Department of Pharmaceutical Sciences, University of Missouri – Kansas City, September 2003.

11. "Interaction of lobeline with the behavioral pharmacology of cocaine and morphine", Behavioral Pharmacology Society Meeting, San Diego, CA, April 2005.
12. "Pollution and drug addiction: Effect of cadmium on behavior and the brain", Department of Psychology, Western Illinois University, February 2007.
13. "Heavy metal madness: Cadmium and drug addiction", Department of Psychology, Northern Illinois University, December 2007.
14. "The cognitive-enhancing stimulant modafinil evokes dopamine release", Show Me Mental State Conference on Cognition, Columbia, MO, June 2008.
15. "Potential role for natural compounds as a treatment for stimulant abuse", Midwestern Psychological Association, Chicago, IL, May 2010
16. "Behavioral differences between rats bred for high and low running", Midwestern Psychological Association, Chicago, IL, May 2014

### Completed Research Funding

1. Postdoctoral Fellow, National Institutes of Health (National Institute on Environmental Health and Safety), Training Grant in Environmental Toxicology (ES07266), University of Kentucky, 1999-2000.
2. National Research Service Award, (National Institute on Drug Addiction), "Lobeline, a potential therapy for methamphetamine abuse" (DA06043), D.K. Miller (PI), 2000-2002
3. University of Kentucky Center on Drug and Alcohol Research Petite Grant, "Preclinical assessment of lobeline as a pharmacotherapy for cocaine abuse", D.K. Miller (PI), \$3000 total costs, 2000-2001.
4. University of Missouri Research Council Grant, "Nicotinic receptor mediation of ephedrine-induced behavioral activation", D.K. Miller (PI), \$4960 total costs, 2002-2003.
5. University of Missouri Big 12 Fellowship, D.K. Miller (PI), \$2130 total costs, 2003-2004.
6. University of Missouri Research Council Grant, "Cadmium inhibition of nicotine self-administration", D.K. Miller (PI), \$7500 total and direct costs, 2004-2005.
7. University of Missouri Research Board Grant, "Pharmacology of potential cocaine antagonists", D.K. Miller (PI), \$25,000 total costs, 2005-2006.
8. University of Missouri College of Arts and Sciences Alumni Association Grant, "Cannabinoid receptor mediation of nicotine-evoked dopamine release", D.K. Miller (PI), \$1500 total costs, 2006.
9. National Institutes of Health (National Institute on Drug Addiction), "Central opioid-cannabinoid interactions and food reward", (R03-DA024829), M. J. Will (PI) & D. K. Miller (co-I), \$139,000 total costs, 2008-2010.
10. National Institutes of Health (National Center for Complementary and Alternative Medicine), "Neuroprotection of apocynin from Picrorhiza kurroa in cerebral ischemia", (R21-AT003859), A. Simonyi (PI), G.Y. Sun (co-I) & D.K. Miller (co-I), \$404,500 total costs, 2008-2011.
11. National Institutes of Health (National Institute on Aging), "Cell models for AD [Alzheimer disease]: Lipids and related signaling pathways" (P01-AG018357), G.Y. Sun (PI), G.A. Weisman (PI), G. Wood (PI) & D.K. Miller (co-I), \$5,920,860 total costs, 2007-2011



12. National Institutes of Health (National Institute on Drug Addiction), "Development of Anti-Cocaine Medications", (1RC1 DA028477), J. R. Lever (PI), S. Z. Lever & D. K. Miller (co-I), \$678,643 total costs, 2009-2011.
13. Mizzou Advantage, "In utero exposure to the endocrine disruptor, bisphenol A: a root cause for a wide range of epigenetic-based diseases?", C. Rosenfeld (PI), D.C. Geary (PI) & D. K. Miller (consultant), \$50,000 total costs, 2011-2012.
14. Mizzou Advantage, "Use of Botanicals in Chronic Pain Research", W.R. Folk (PI), D. K. Miller (key participant), \$50,000 total costs, 2011-2012.

### Current Research Funding

1. University of Missouri Interdisciplinary Intercampus Research Program, "Effects of high and low voluntary running genetics on stress and depression outcomes in females", F. W. Booth (PI), D. K. Miller (PI), G. Taylor (PI), \$75,000 total costs, 2013-2014

### Abstracts and Poster Presentations

1. Klebaur, J.E., Miller, D., & Bardo, M.T. (1994). The effect of anxiolytics on novelty-induced place preference. *Society for Neuroscience*.
2. Livermore, C.L., Nation, J.R., Miller, D.K., & Meagher, M.W. (1996). Chronic exposure to lead alters the initiation of behavioral sensitization to morphine. *Society for Neuroscience*, 22(1), 172.
3. Miller, D.K., Burkey, R.T., Livermore, C.L., & Nation, J.R. (1996). Lead attenuates cocaine drug discrimination in rats. *College on Problems of Drug Dependence*.
4. Miller, D.K., Nation, J.R., & Livermore, C.L. (1996). Cadmium exposure prevents behavioral sensitization to morphine. *Society for Neuroscience*, 22(1), 172
5. Wellman, P.J., Livermore, C.L., Miller, D.K., Green, T., & Nation, J.R., (1996). Effects of (-) ephedrine hydrochloride on extracellular dopamine levels within rat nucleus accumbens. *Society for Neuroscience*.
6. Miller, D.K. (1997). Chronic cadmium exposure attenuates morphine conditioned place preference. *Southwestern Psychological Association*.
7. Miller, D.K. & Nation, J.R. (1997). Chronic cadmium exposure attenuates the conditioned reinforcing properties of morphine and fentanyl. *Society for Neuroscience*.
8. Wellman, P.J., Miller, D.K., McMahon, L.R., Green, T.A., & Nation, J. R. (1997). Locomotor sensitization following chronic (-)-ephedrine hydrochloride in rats. *Society for Neuroscience*.
9. Miller, D. K. & Nation, J. R. (1998). Effects of perinatal lead exposure on cocaine sensitization. *Southwestern Psychological Association*.
10. Miller, D. K. & Nation, J. R. (1998). Effects of perinatal lead exposure on cocaine locomotor activity. *Society for Neuroscience*.
11. Jones, S. L., Miller, D. K., & Wellman, P. J. (1999). Reversal of ephedrine-induced anorexia in rats by systemic administration of the  $\alpha_1$ -receptor antagonist prazosin. *Society for the Study of Ingestive Behavior, Appetite*, 33(2), 265.

12. Wellman, P. J., Jones, S. L., Miller, D. K., Gilliland, T. R., & Champney, T. H. (1999). Amnesia and analgesia in the rat induced by systemic administration of fenfluramine and/or phentramine. *Society for Neuroscience*.
13. Miller, D. K., Green, T. A., Harrod, S. B., Bardo, M. T., Crooks, P. A., & Dvoskin, L. P. (2000). Effects of lobeline on methamphetamine and nicotine-induced hyperactivity and sensitization. *College on Problems of Drug Dependence, Drug and Alcohol Dependence*, 60(S), 151.
14. Miller, D. K., Jones, M. D., Deaciuc, A. G., Crooks, P. A., & Dvoskin, L. P. (2000). Pharmacology of lobeline and meso-transdiene. *Neuronal Nicotinic Receptors: 10<sup>th</sup> Neuropharmacology Conference*, 91.
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