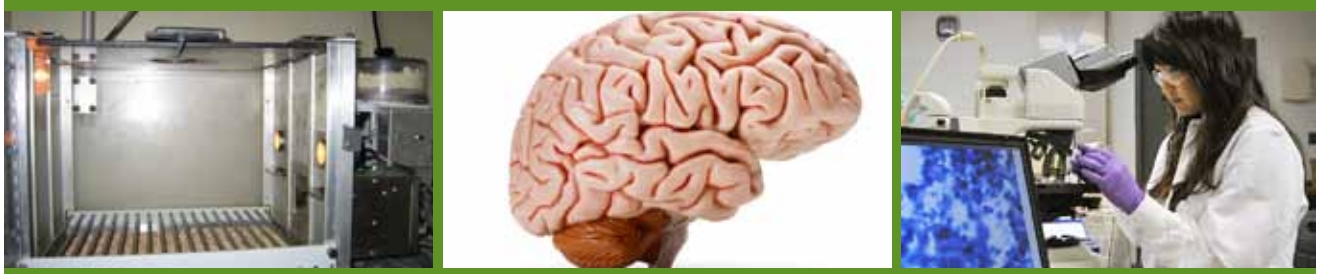


# Neurobehavioral Pharmacology and Toxicology Services



RTI International helps clients develop safe and effective medications to treat disorders of the central nervous system and assess the neurotoxicological potential of commodity chemicals. Staff scientists design and conduct behavioral studies consistent with our clients' goals. Contract services include evaluation of structure-activity relationship and therapeutic efficacy of novel compounds for drug development, substance abuse liability assessment, and behavioral toxicology testing.

## Overview

Our experts in neurobehavioral pharmacology and toxicology collaborate with investigators and researchers across the Institute to provide a comprehensive program of *in vivo* and *in vitro* central nervous system pharmacology and toxicology services, including chemical synthesis and drug design, pharmacokinetics, receptor binding and function, and behavioral pharmacology and toxicology. We maintain strict confidentiality and conduct testing in accordance with guidelines from the U.S. Food and Drug Administration, the U.S. Environmental Protection Agency, Drug Enforcement Agency, Organisation for Economic Co-operation and Development, and Good Laboratory Procedures (GLP). RTI maintains an AAALAC-accredited animal research facility, with an on-site quality assurance unit and full regulatory-compliant analytical chemistry and dose formulation services.

## Areas of Expertise

RTI's expertise spans a broad spectrum of procedures in experimental pharmacology. Our researchers conduct evaluations using

- Abuse liability assessment in rodents: drug discrimination, self-administration, primary dependence
- Phenotyping of genetically modified mice
- Functional observational battery
- Locomotor activity
- Rotorod
- Fear conditioning
- Passive-avoidance memory test
- Operant responding
- Acoustic startle and prepulse inhibition
- Acute analgesia assessment (tail flick, hot plate)
- Anxiolytic and antidepressant screening models

## Client Focus

RTI's technical, research, and development services meet the highest standards of professional performance to satisfy the unique requirements of our clients. We work closely with clients to identify their requirements and clarify expectations, including cost and time constraints.

RTI extends its excellence in research and technical services to its business systems and processes, making it easy for clients, subcontractors, and vendors to partner with us. We have the contractual, legal, and business structures to assist clients with projects of all sizes. RTI is a 501(c)(3) nonprofit corporation.

## Selected Publications

Wiley, J.L.; Jones, A.R.; Wright, M.J., Jr. Exposure to a high-fat diet decreases sensitivity to  $\Delta^9$ -tetrahydrocannabinol-induced motor effects in female rats. *Neuropharmacology*, **2011**, *60*, 274–283.

Marusich, J.A.; Beckmann, J.S.; Gipson, C.D.; Bardo, M.T. Methylphenidate as a reinforcer for rats: Contingent delivery and intake escalation. *Exp Clin Psychopharmacol*, **2010**, *18*, 257–266.

Marusich, J.A.; Bardo, M.T. Differences in impulsivity on a delay discounting task predict self-administration of a low dose of methylphenidate in rats. *Behav Pharmacol*, **2009**, *20*, 447–454.

Vann, R.E.; Cook, C.D.; Martin, B.R.; Wiley, J.L. Cannabimimetic properties of ajulemic acid. *J Pharmacol Exp Ther*, **2007**, *320*, 678–686.

Wiley, J.L.; Burston, J.J.; Leggett, D.C.; Alekseeva, O.O.; Razdan, R.K.; Mahadevan, A.; Martin, B.R. CB1 cannabinoid receptor-mediated modulation of food intake in mice. *Br J Pharmacol*, **2005**, *145*, 293–300.

## Neurobehavioral Pharmacology and Toxicology Expertise

**Jenny L. Wiley, PhD**—Dr. Wiley has more than 20 years experience in behavioral pharmacology and toxicology. She oversees the design of behavioral studies and coordinates parallel *in vitro* studies, as necessary, for comprehensive assessment of candidate medications or commodity chemicals.

**Julie A. Marusich, PhD**—Dr. Marusich earned her degree in Behavior Analysis from the University of Florida. She uses her expertise in a variety of behavioral techniques to develop experimental methods consistent with client goals.

Wiley, J.L.; LaVecchia, K.L.; Martin, B.R.; Damaj, M.I. Nicotine-like discriminative stimulus effects of bupropion in rats. *Exp Clin Psychopharmacol*, **2002**, *10*, 129–135.

Wiley, J.L.; Jefferson, R.G.; Grier, M.C.; Mahadevan, A.; Razdan, R.K.; Martin, B.R. Novel pyrazole cannabinoids: Insights into CB1 receptor recognition and activation. *J Pharmacol Exp Ther*, **2001**, *296*, 1013–1022.

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## More Information

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