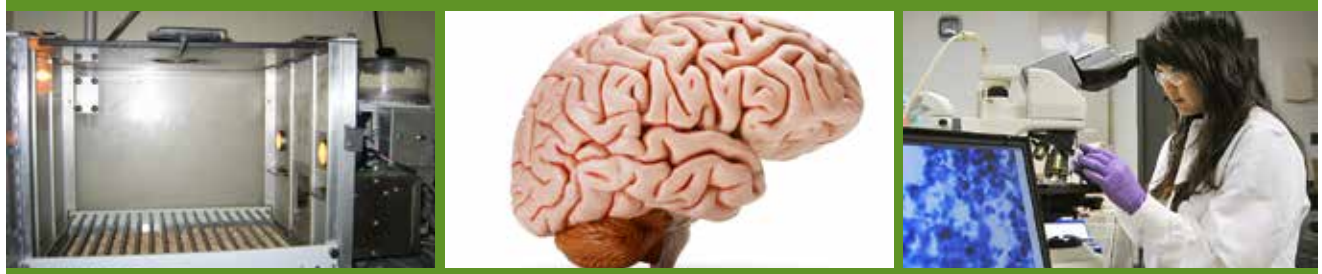


# Neurobehavioral Pharmacology Services



RTI International helps clients develop safe and effective medications to treat disorders of the central nervous system. 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 pharmacology testing.

## Overview

Our experts in neurobehavioral pharmacology collaborate with investigators and researchers across the Institute to provide a comprehensive program of in vivo and in vitro central nervous system pharmacology services, including chemical synthesis and drug design, pharmacokinetics, receptor binding and function, and behavioral pharmacology. 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, conditioned place preference
- Functional observational battery
- Locomotor activity
- Rotorod
- Operant responding
- Acoustic startle and prepulse inhibition
- Acute analgesia assessment (tail flick, hot plate)

## 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

Lefever, T. W., Lee, Y. O., Kovach, A. L., Silinski, M. A., Marusich, J. A., Thomas, B. F., & Wiley, J. L. (2017). Delivery of nicotine aerosol to mice via a modified electronic cigarette device. *Drug and Alcohol Dependence*, *172*, 80–87. doi:10.1016/j.drugalcdep.2016.12.004

Lefever, T. W., Marusich, J. A., Antonazzo, K. R., & Wiley, J. L. (2014). Evaluation of WIN 55,212-2 self-administration in rats as a potential cannabinoid abuse liability model. *Pharmacology Biochemistry and Behavior*, *118*, 30–35. doi:10.1016/j.pbb.2014.01.002

Marusich, J. A., Lefever, T. W., Blough, B. E., Thomas, B. F., & Wiley, J. L. (2016). Pharmacological effects of methamphetamine and alpha-PVP vapor and injection. *Neurotoxicology*, *55*, 83–91. doi:10.1016/j.neuro.2016.05.015

Wiley, J. L., Lefever, T. W., Marusich, J. A., Grabenauer, M., Moore, K. N., Huffman, J. W., & Thomas, B. F. (2016). Evaluation of first generation synthetic cannabinoids on binding at non-cannabinoid receptors and in a battery of in vivo assays in mice. *Neuropharmacology*, *110*, 143–153. doi:10.1016/j.neuropharm.2016.07.016

Wiley, J. L., Marusich, J. A., Lefever, T. W., Antonazzo, K. R., Wallgren, M. T., Cortes, R. A., Patel, P. R., Grabenauer, M., Moore, K. N., & Thomas, B. F. (2015). ABCHMINACA, AB-PINACA, and FUBIMINA: Affinity and potency of novel synthetic cannabinoids in producing D9-tetrahydrocannabinol-like effects in mice. *Journal of Pharmacology and Experimental Therapeutics*, *354*(3), 328–339. doi:10.1124/jpet.115.225326

## Neurobehavioral Pharmacology and Toxicology Expertise

**Jenny L. Wiley, PhD**—Dr. Wiley has more than 20 years of 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.

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## More Information

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