



In Vitro ADME Services

Advancing Compound Selection

Frontage Global Drug Discovery Services (GDDS) offers a full spectrum of in vitro ADME assays for small molecule drug discovery and preclinical development. Our strong focus on lab operations, automation, and project management enables efficient delivery and unparalleled quality. We believe in a customer-centric approach providing real-time communication and reliable consultations to Sponsors.

CYP450 Interactions – Drug-Drug Interactions

- CYP450 Inhibition Assays – All Major Isoforms
 - Single-substrate or cocktail formats
- CYP450 Ki Determinations
- Time-Dependent Inhibition – IC_{50} Shift, k_{inact}/K_i
- Reaction Phenotyping
 - HLM with specific inhibitors (7 isoforms)
 - Recombinant Enzymes: 13-enzyme panel
- CYP450 Induction

Protein Binding – IND-Enabling & Lead Optimization

- Plasma Protein Binding (RED, ultracentrifugation, HTDialysis, and ultrafiltration)
- Blood-to-Plasma Ratio
- Tissue / Whole Cell Binding

Metabolic Stability – Lead Optimization

- Microsome, S9 and Hepatocyte Stability Assays: human/ monkey/dog/ rat/mouse (others upon request)
- Plasma/Blood Stability: all species
- Buffer Stability (PBS, SIF, SGF, customized buffer)
- Non-CYP mediated metabolism: UGTs, SULT1E1, AO, FMO and others

Permeability & Transporters – Lead Optimization, Drug-Drug Interactions

- MDCK, MDCK-MDR1, Caco-2 permeability & efflux transport
- P-gp & BCRP Inhibition and substrate assays
- OATP1B1 and OATP1B3 inhibition and substrate assays

Metabolite Identification – IND-Enabling & Lead Optimization

- Identification of unique and disproportionate metabolites for in vitro and in vivo samples
- Soft spot identification
- Selection of appropriate preclinical tox models
- Reactive metabolites: reactivity with GSH, CYS and aldehyde

Physicochemical Properties – IND-Enabling & Lead Optimization

- Log D
- pKa
- Kinetic Solubility
- Thermodynamic Solubility
- Chemical Stability in Buffers (PBS, SIF, SGF, and pH Buffers)

Frontage Laboratories, Inc. is a contract research organization (CRO) that provides integrated, science-driven, product development services throughout the drug discovery and development process to enable pharmaceutical and biotechnology companies to achieve their development goals. Comprehensive services include drug metabolism and pharmacokinetics, analytical testing and formulation development, preclinical and clinical trial material manufacturing, bioanalysis, preclinical safety and toxicology assessment and early phase clinical studies. Frontage has enabled many biotechnology companies and leading pharmaceutical companies of varying sizes to advance a myriad of molecules through development and file regulatory submissions in the United States, China, and other countries.

FOR MORE INFORMATION, CONTACT US AT: gdds@frontagelab.com; OR VISIT US AT: frontagelab.com