

Inotiv Standard IND-Enabling *In Vitro* DMPK Package for Small Molecules



BIOANALYTICAL METHOD DEVELOPMENT AND QUALIFICATION FOR *IN VITRO* PACKAGE STUDIES

Method Development (One-time charge, matrix agnostic, 8 hours)

**Not needed if a part of a larger toxicology package that includes Bioanalytical Method Development*

Method Qualification (Plasma and blood matrices, single species, 8 hours)



ABSORPTION

Bi-Directional Permeability - Human Caco-2 Cells



DISTRIBUTION

Plasma Protein Binding - Rapid Equilibrium Device - Rat, Dog and Human

Red Blood Cell Partitioning - Human Blood

**Additional species available upon request*



METABOLISM/DRUG-DRUG INTERACTION

Metabolic Stability / Intrinsic Clearance in Liver S9 Fraction - Rat, Dog and Human

**Liver Microsomes, Hepatocytes and Hepatocyte Co-Culture models available upon request*

Metabolite Profiling in Liver S9 Fraction - Rat, Dog and Human

**Liver Microsomes, Hepatocytes and Hepatocyte Co-Culture models available upon request*

CYP Inhibition in Human Liver Microsomes (IC₅₀ Shift Design, 7 CYPs)

CYP Reaction Phenotyping - Recombinant Human P450 Enzymes

CYP Induction in Pre-Qualified Plated Human Hepatocytes (3 donors, 3 CYPs, mRNA)

Transporter Inhibition for ABC and SLC Transporters

Transporter Substrate Assessment for ABC Transporters (P-gp and BCRP)

**Substrate Assessment for SLC Transporters available upon request.*



EXCRETION

Single Dose Biliary and Urinary Excretion Pharmacokinetic Study in Sprague Dawley Rats to Assess Clearance Mechanisms (With Optional Metabolite ID)



Discovery Through Approval

At Inotiv, we deliver a comprehensive portfolio of drug discovery services and an integrated range of safety assessment, analytical support, DMPK, and consulting solutions essential to your success. We have a multidisciplinary scientific staff with the expertise and technological capabilities to support you throughout the drug development life cycle. From lead selection and optimization to IND programs and beyond, our team takes a true collaborative approach working in partnership with you to find the right path that focuses on your objectives.

	Discovery		Preclinical Development	Clinical Development		
	Lead Selection	Optimization		I	II	III
Computational Tox/ Toxicogenomics	In Silico Chemical Structure Evaluation/QSAR, PBPK Modeling, Gene Expression Profiling		IVIVE Modeling, Gene Expression Profiling			
Pharmacology	In Vivo Efficacy Models, Rodent Telemetry		Targeted Proteomics, Disease Biomarkers, PK/PD Modeling			
Drug Metabolism	Metabolic Stability, Metabolic Soft-Spots, Discovery PK Screening, Cell & Molecular Biology		In Vitro DDI (CYP & Transporters), Metabolite ID, PK/TK Analysis	DDI, Circulating Human Metabolites (MIST), PK Modeling		
Safety Pharmacology	Exploratory Screening Using Large & Small Animal CNS, CV, Respiratory		Large Animal CV, Large & Small Animal Respiratory, Small Animal CNS			
General Tox	In Vitro Tox, Exploratory Toxicology (MTD/DRF)		IND Enabling Rodent/Non-Rodent	Sub Chronic & Chronic Tox		Carcino- genicity <small>(Including Transgenic Mouse)</small>
Genetic Tox	Screening, Mini Ames & In Vitro Micronucleus		Ames, In Vitro Cytogenetics, In Vivo MN/Comet			
Bioanalysis	Exposure Analysis, Dose Formulation Analysis, Discovery Biotherapeutics & Biomarkers		Regulated Preclinical, Immunogenicity, Biomarkers	Regulated Bioanalysis, Biomarkers		
Histology/Pathology	Target Tissue Assessment, Immunohistochemistry, Digital Imaging, Clinical Pathology		Histology & Pathology, Clinical Pathology			
DART				Fertility & Early Embryonic Development		
				Embryo-Fetal Development		Pre & Postnatal Development
Research Models and Services	General Purpose Models, GEMS Models, Model Support Services					
Teklad Diets	Standard Diets, Custom Diets, Bedding and Enrichment					