

DMPK Discovery

Pharmaron's DMPK services offer comprehensive *in vitro* ADME, *in vitro* toxicity and *in vivo* pharmacokinetics, which allow for quick evaluation of DMPK properties and toxicity of test articles. Our animal facility is AAALAC accredited. The validated Watson 7.5 LIMS software is used to manage bioanalytical studies from initiation through sign off to ensure compliance, as well as industry and regulatory standards.

Instrumentation

LC-MS/MS

- ▶ API6500/API5500
- ▶ Waters TQS/TQD
- ▶ Shimadzu 8060/8050
- ▶ Thermo Q-Exactive

Liquid Handlers

- ▶ Tecan Freedom EVO
- ▶ Echo 550
- ▶ Agilent Bravo + Benchcel

Multifunctional Detectors

- ▶ MSD
- ▶ Gyrolab xP workstation
- ▶ Luminex 200
- ▶ FACSCanto II

Radiolabelled Analytical

- ▶ UPLC-RAD-MS
- ▶ TopCount
- ▶ AMS

in vitro DMPK

- Physicochemical properties
- Drug absorption & transport
- Drug metabolism
- Drug-drug interactions
- Metabolite profiling & identification

in vivo DMPK

- Formulation screening
- PK
- Mass balance
- Tissue distribution
- Metabolite quantification & identification
- Toxicokinetics: Parent/metabolites
- Special dosing routes: Infusion, intratracheal, intracolonic, intranasal and sublingual, etc.

Specialties

- Microdialysis: Real-time measurement of unbound compound concentration *in vivo*
- Ussing chamber: Measurement of TA permeability and metabolism in fresh intestinal tissues
- Comprehensive transporter studies: ABC (efflux) and SLC (uptake) transporters
- *in vitro* Toxicity: Liver toxicity package (general & mechanistic toxicity evaluation), cardiotoxicity, genotoxicity
- Package studies to support IND/NDA submission - FDA, NMPA, EMA

PK/PD

- Systemic circulation exposure
- Tissue exposure, particular target organs
- Small molecule biomarker analysis (LC-MS/MS): Method & SOP development, validated methods including malonyl-CoA, malonylcarnitine, NAD, adenosine, etc.