

DRUG METABOLISM AND PHARMACOKINETICS (DMPK)

Studies determining Absorption, Distribution, Metabolism and Excretion (ADME) characteristics of drug candidates in laboratory animals and humans are an integral part of the Drug Metabolism and Pharmacokinetics (DMPK) services provided by QPS.



DISCOVERY
ADME



CANDIDATE
SELECTION



IND
ENABLING



NDA
FILING

Absorption

- ▶ Single and Multiple Dose, Dose Proportionality, Bioavailability
- ▶ PK/TK Analysis
- ▶ Permeability and Drug Transport

Distribution

- ▶ Plasma/Tissue Protein Binding
 - *In Vitro*, *Ex Vivo*
- ▶ Red Blood Cell/Plasma Partitioning
- ▶ Placental Transfer, Milk Transfer
- ▶ Quantitative Whole-Body Autoradiography (QWBA)
 - Human Dosimetry Estimation
- ▶ Micro-autoradiography (MARG)

Metabolism

- ▶ Metabolic Stability, Species Comparison
 - Intrinsic Clearance
- ▶ Enzyme Inhibition, Enzyme Induction
- ▶ Reaction Phenotyping
- ▶ Metabolite Profiling and Identification
 - *In Vitro* - Species Comparison
 - *In Vivo* - First in Human (plasma), Species Comparison (MAD, Tox plasma - MIST)
 - Radiolabeled - Pre-clinical, Human (AME)

Elimination

- ▶ Radiolabeled Mass Balance/Biliary Excretion