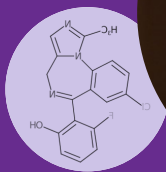




COLLEGE OF PHARMACY
PHARMACOKINETICS CORE
UNIVERSITY OF MICHIGAN

“We support the discovery, development, & refinement of therapeutics.”

— Duxin Sun, PhD, Core Director



Free Consultation.

We provide free consulting services for preclinical and clinical drug metabolism and pharmacokinetics research.



Bo Wen, PhD, Core Manager

Have a compound but want a drug?

Have a drug but don't know the right dose?

We can help you with:

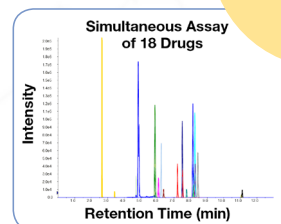
Bioanalysis

LC-MS analysis of drug/compound concentration in biological specimens, animals, or people.

Find the concentration of a compound in tissue.

We developed assays to measure over 2300 compounds, including several commercially available drugs.

Assay Method Development and Validation



Finding Drug-like Properties

- Microsomal Stability
- Metabolite ID
- Protein Binding
- Blood/Plasma Ratio
- Drug Metabolism:
 - » Enzyme Inhibition
 - » Enzyme Identification
 - » Enzyme Induction

Identify metabolites with our cloud-based software.

We created user-friendly software called iMassFrag to rapidly identify metabolites from tandem mass spectrometry data, at www.pkcore.org.

Explore **iMassFrag**

Pre-Clinical Studies

We perform oral bioavailability, pharmacokinetic, and biodistribution studies in animal models.

Optimize your compound for *in vivo* use.

We supported the evaluation of hundreds of compounds to identify lead candidates for drug development and commercialization.

5
Drugs
Licensed to
Pharma



The PK Core gratefully acknowledges support from the College of Pharmacy and the UM Comprehensive Cancer Center.



Clinical Studies

Develop and conduct clinical studies.

We assist with design of early phase clinical trials that involve assessment of exposure-response relationships.

Prepare grant applications

Justify dose selection for applications

Identify storage and handling conditions for samples prior to bioanalysis

Identify optimum sampling time points, sample matrix, and collection tubes

Assays for Precision Medicine

PK/PD Modeling & Dose Optimazation

We use non-linear mixed effects modeling to characterize systemic exposure and define the PK/PD model predictive of safety and efficacy.

Population-PK Analysis

Several tools are applied to find the sources of variation in the exposure profile of the lead compound, which allows refinement of the dosage for a population.

S-ADAPT®

PMetrics®

R

NONMEM®

Interpret resulting data

Collaborate in publishing scientifically impactful papers

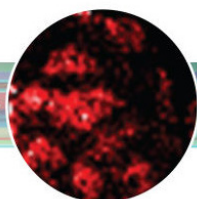
Coming Soon → Spatial Drug and Biomarker Imaging

We are acquiring a state of the art full-spectrum molecular imaging instrument. One system will accurately measure the biodistribution of both biomarkers and therapeutics in the same tissue sample **without the need for labeling.**

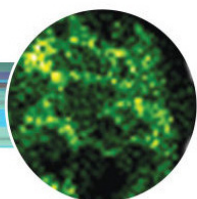
DESI - MALDI WORKFLOW



Tissue Section



DESI-MS Image



MALDI-MS Image



Synapt HDMS

Current Equipment:

LC-MS/MS (ABI 5500Q), LC-MS/MS (ABI 4500Q), LC-MS/MS (ABI 3200Q), Shimadzu LC-MS - 2010A, Agilent LC-MS 6130, 3 analytical HPLC systems with 2 prep HPLC systems, and various PK modeling software.

“We help you make informed decisions faster.”

— Amit Pai, PharmD, Deputy Director



Located at

North Campus Research Complex (NCRC)
1600 Huron Pkwy — Building 520
Room 3400, 3349 - 3362 (Offices)
Ann Arbor, MI 48109

Contact us

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Costs vary depending on services used or type of collaboration, but please contact us and we will happily figure it out together!