

UAMS

UNIVERSITY OF ARKANSAS
FOR MEDICAL SCIENCES



Presented by: Office of the Vice Chancellor for Research
Date: October 2, 2012



Biodosimetry Diagnostic Core

Howard Hendrickson, PhD, Pharmaceutical Sciences, Core Director

■ Small Molecule Analysis

■ ultra-HPLC-MS

- Quantitative LC-MS/MS
- Elemental composition by time of flight mass spectrometry

■ Applications

- Biomarker determination
 - Amino acid analysis
 - Dopamine beta hydroxylase activity



Biodosimetry Diagnostic Core

Howard Hendrickson, PhD, Pharmaceutical Sciences, Core Director

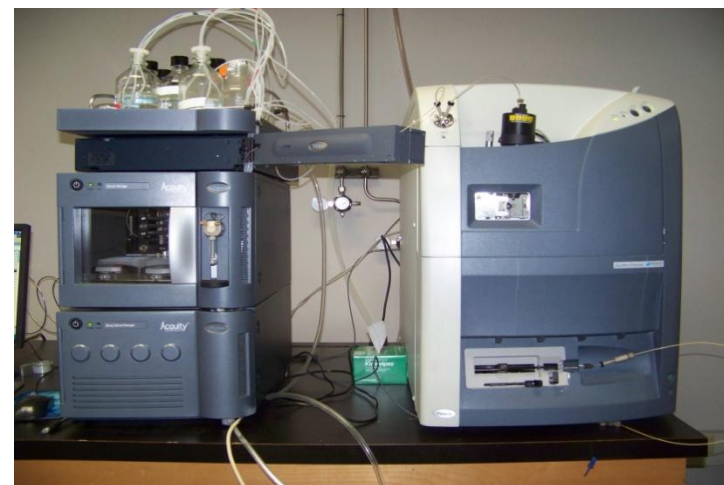
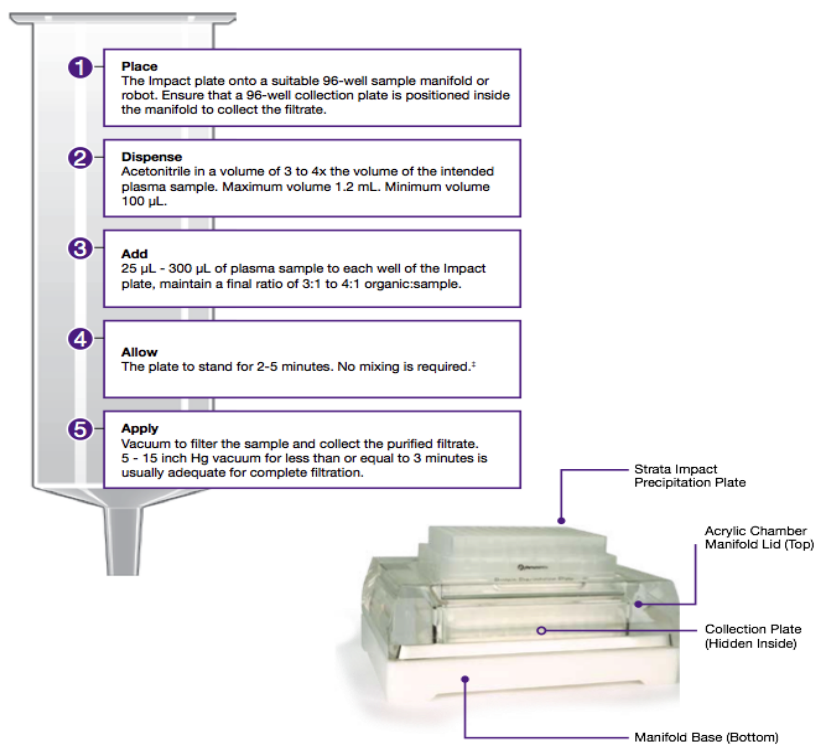
- **Bioanalytical Services**
 - Validated High-Throughput Analysis
 - Targeted Metabolomics
 - Metabolism
 - Structure Identification
 - Preclinical & Clinical Pharmacokinetics



Biodosimetry Diagnostic Core

Howard Hendrickson, PhD, Pharmaceutical Sciences, Core Director

■ Bioanalytical Instrumentation



Core has 2 LC-MS/MS systems available. Each system performs a separate function. The Waters Quattro Premier system is a triple quadrupole instrument used for quantitative work related to PK and targeted metabolomics.



Biodosimetry Diagnostic Core

Howard Hendrickson, PhD, Pharmaceutical Sciences, Core Director

■ Bioanalytical Instrumentation



The core also has recently acquired GC-MS and capability with headspace sampling or traditional automatic liquid sampling.



Biodosimetry Diagnostic Core

Howard Hendrickson, PhD, Pharmaceutical Sciences, Core Director

■ Current Core Users

- Martin Hauer-Jensen, COP
- Alison Oliveto, COM
- Armed Forces Radiation Research Institute
- Bill Culp, COM
- Philip Palade, COM



Biodosimetry Diagnostic Core

Howard Hendrickson, PhD, Pharmaceutical
Sciences, Core Director

- **Contact Information**

- **Howard Hendrickson, PhD**

Assoc. Professor, Core Director

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- **501-603-1547**



UAMS Core Facility Boilerplate for Grant Applications

Philip Mayeux,
TRI Translational Technologies Director

- **TRI Core Facilities & Technical Services Website**
 - Listing of UAMS Core Facilities
 - Grouping of facilities by types of services offered
 - Download text to be used in a grant application



UAMS Core Facility Boilerplate for Grant Applications

Philip Mayeux,
TRI Translational Technologies Director

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About TRI

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■ tri.uams.edu

Spotlight On...



[TRI Scholar's Research Receives National Attention. Public Health Study Shows State Medicaid Savings](#)

ResearchMatch



[ResearchMatch](#) is a national registry that brings together researchers and willing volunteers who wish to get involved in research studies.

10/10/2012

UAMS Core Facility Boilerplate for Grant Applications

Philip Mayeux,
TRI Translational Technologies Director



- About TRI
- Research Resources & Services Directory
- Community & Collaboration
- Education & Career Development
- Spotlight On...
- ResearchMatch

- Establishing a New Core Facility
- Biodosimetry Diagnostic Core
- Bioluminescent & Fluorescent Imaging Core
- Biotelemetry & Ultrasound Imaging Core
- Brain Imaging Research Core
- Crystallography Core
- Digital Microscopy Core
- DNA Damage & Toxicology
- DNA Sequencing Core
- Experimental Pathology Core

Core Facilities & Technical Services

The Translational Research Institute (TRI) supports a wide range of shared resources and core facilities designed to advance basic, clinical and translational research. Core facilities are pay-per-use research laboratories or analytical services, which allow investigators access to technologies and services they do not have available in their own laboratories. By providing centralized oversight and infrastructure for more than a dozen core facilities administered by various Centers and Departments at the University of Arkansas for Medical Sciences, the TRI strives to facilitate access to high-quality, cost-efficient, state-of-the-art technologies. Additionally, the TRI coordinates the [establishment of new core facilities](#).

Download a [description of TRI Core Facilities](#) for your grant application.

Currently Supported Core Facilities

- | | |
|---|---|
| Cell Analysis <ul style="list-style-type: none">Biodosimetry Diagnostic CoreDigital Microscopy LabDNA Damage & Toxicology CoreFlow Cytometry Core | Tissue Analysis <ul style="list-style-type: none">Digital Microscopy LabDNA Damage & Toxicology CoreExperimental Pathology CoreSkeletal Phenotyping CoreTissue Procurement Facility |
| Biomarker Analysis <ul style="list-style-type: none">Biodosimetry Diagnostic CoreFlow Cytometry CoreProteomics Core | Animal Research <ul style="list-style-type: none">Bioluminescent & Fluorescent Imaging CoreBiotelemetry & Ultrasound Imaging CoreDNA Damage & Toxicology CoreMolecular Imaging CoreSkeletal Phenotyping CoreTransgenic Mouse Core |
| Genetic Analysis <ul style="list-style-type: none">DNA Sequencing CoreGenomics Core | Clinical Research <ul style="list-style-type: none">Brain Imaging Research CoreClinical Research Services CoreMolecular Imaging CoreTissue Procurement Facility |
| Molecular Structure Analysis <ul style="list-style-type: none">Crystallography CoreProteomics Core | |



UAMS Core Facility Boilerplate for Grant Applications Philip Mayeux, TRI Translational Technologies Director

Core Facility Resources Boilerplate Text

Cell Analysis

Biodosimetry Diagnostic Core: Using ultrahigh-performance liquid chromatography-tandem mass spectrometry (UHPLC-MS/MS), this core offers high-throughput analytical services for determining diagnostic amino acids and their precursors or metabolic products. Available biomarkers include citrulline and tetrahydrobiopterin. Determination of other small molecules is possible, but fees will be assessed for the cost of method validation.

Digital and Electron Microscopy Core: Operates and maintains computer controlled microscope workstations ranging from light to electron microscopy. The core's faculty and staff provide advice, training and user support for equipment operation and sample preparation. Available equipment includes Zeiss LSM 510 Meta, AzioImager, and Axiovert S100TV microscopes and a FEI Tecnai F20 200keV electron microscope.

Flow Cytometry Core: Provides cell sorting as well as biomarker, cell cycle, cell proliferation, membrane potential and other analyses. Available instrumentation includes the FACS Aria with three lasers and detection of up to nine colors at one time and cell sorting of up to four populations at once. The FACSCalibur has four fluorescence detectors plus forward- and side-scatter detectors and is used for a variety of cell analyses. The core also offers protocol development advice and data analysis.



UAMS Core Facility Boilerplate for Grant Applications

Philip Mayeux,
TRI Translational Technologies Director

- **UAMS Core Day**
 - November 15, 2012
 - In association with Professional Development Day
 - Core Directors available to discuss applications



Research Support Center Update

Tom Wells, Director

- **Research Support Center's Regulatory Group and Project Team Leaders**
 - New location – 5th floor Stephens Spine Institute
- **New Employee – Melisa Clark**
(Regulatory and Project team), 501-296-1897



COM IT Research Support Net

Dean Wright, Manager

■ RESNET Status

■ Hardware Move

- Most of the physical and virtual servers managed by COM IT Research Support have been moved to the IT datacenter.
- Helpdesk calls for IT research needs for production servers will be handled by IT.

■ RESNET server and storage yet to move.

■ Recommend maintaining separate space for research development hardware.



COM IT Research Support Net

Dean Wright, Manager

- **COM IT Research Development (RESDEV) Services**
 - **Research SAN storage (RESSAN)**
 - Old SAN available for research use i.e. transferring large amounts of data like files from analytical devices like sequencers, scopes.
 - RESSAN will not be backed up and will be erased every month.
 - **Virtual Servers**
 - VMware vSphere ESXi 5.0 virtual environment
 - Departments can request a development server



COM IT Research Support Net

Dean Wright, Manager

- **Virtual Servers (continued)**
 - Database development, (i.e. Hogan)
 - Application development, (i.e. Redcap)
 - Testing



COM IT Research Support Net

Dean Wright, Manager

■ Facilitate Research IT Needs

- New research IT projects, i.e. networking core devices, centralized apps
- Research alternative technology, i.e. better, inexpensive, appropriate, i.e. encryption
- Troubleshoot projects
- Repurposing old equipment, i.e. new staff
- Liaison between IT and research
- Input on Research IT committees and policies



COM IT Research Support Net

Dean Wright, Manager

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Grants Accounting

Janet Hopper

- **Grants Accounting / Cost Accounting**
 - **Who are we?**
 - Post Award
 - Cost Accounting
 - **What do we do?**
 - After the award
 - Compliance issues
 - Coordinate all with ORSP
 - Cost Share
 - Salary Cap
 - Allowable, Allocable, Reasonable Costs



Grants Accounting

Janet Hopper

- **Grants Accounting / Cost Accounting**
 - What do we do (continued)?
 - After the award
 - Financial Reporting and Cash Management
 - Budget Revisions
 - Federal Financial Reports (FFR formerly FSR)
 - Other Financial Reports
 - Monthly invoicing (average 150 a month)
 - Weekly draws
 - Receive and track owner for other payments



Grants Accounting

Janet Hopper

- **Grants Accounting / Cost Accounting**
 - Other
 - Set up accounts
 - Advance Accounts (changes)
 - Regular setups
 - Close accounts –
 - 90, 60 ,30 day notices to PI and Grant Administrator
 - Weekly CSR Due list!
 - Training for Grants Management Certification Program
 - Audits
 - A-133 annually and others



Grants Accounting

Janet Hopper

- **Grants Accounting / Cost Accounting**
 - F&A Negotiations and Collections
 - Space Survey
 - Effort Reporting



Next RESIN

■ Next RESIN

- **November 6, 2012 @ 12:00 p.m.**
- Location - **Walton Auditorium**, Winthrop P. Rockefeller Cancer Institute, 10th floor
- All RESIN presentations archived on the UAMS Research website
 - http://www.uams.edu/research/RESIN_Achive.asp