THE MID-ATLANTIC SHARED RESOURCES CONSORTIUM seeks to enhance the availability of the specialized technical services, equipment and expertise of consortium member institutions to support basic and clinical cancer research. Consortium members include the following National Cancer Institute-designated cancer centers: the University of Maryland Marlene and Stewart Greenebaum Cancer Center, the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, the University of Virginia Cancer Center, and the Georgetown Lombardi Comprehensive Cancer Center. Each has made significant investments in shared resources to support basic and clinical research, and the close proximity of the members of the partnership makes access to the other Institution's shared resources feasible. In the spirit of the National Cancer Institute's "roadmap" and in an effort to further enhance the availability of these shared resources without a further investment or cost, the Consortium seeks to share, in an economical manner, these specialized technical services and access to equipment and expertise.

Georgetown | Lombardi
COMPREHENSIVE CANCER CENTER

3800 Reservoir Rd., Washington, DC 20057
t: (202) 687-1664
http://lombardi.georgetown.edu/research/sharedresources/index.html
Stephen Byers: e: byerss@georgetown.edu, t: (202) 687-1813

JOHNS HOPKINS
MEDICINE
THE SIDNEY KIMMEL COMPREHENSIVE CANCER CENTER

The Harry and Jeanette Weinberg Building, Ste. 1100
401 N. Broadway, Baltimore, MD 21287
t: (410) 955-5222
http://www.hopkinsmedicine.org/kimmel_cancer_center/research_clinical_trials/research/shared_resources/
Jeffrey Smith: e: smithje@jhmi.edu, t: (410) 614-2299

UNIVERSITY of MARYLAND
MARLENE AND STEWART GREENEBAUM CANCER CENTER

22 S. Greene Street, Baltimore, MD 21201
t: (410) 328-7904
http://www.umgcc.org/research/shared_serv.htm
Nicholas Ambulos: e: nambulos@umaryland.edu, t: (410) 706-8553

UNIVERSITY of VIRGINIA
SCHOOL OF MEDICINE

PO Box 800734, Charlottesville, VA 22908
t: (434) 924-2356
http://www.medicine.virginia.edu/research/cores/orca/home-page
Jay Fox: e: jwf8x@virginia.edu, t: (434) 924-0050

Mid-Atlantic Shared Services Consortium

Georgetown Lombardi Comprehensive Cancer Center

METABOLOMICS & GLYCOMICS

Director of Metabolomics:
Amrita Cheema, Ph.D.
t: (202) 687-2756,
akc27@georgetown.edu

Director of Glycomics:
Radoslav Goldman, Ph.D.
t: (202) 687-9868,
rg26@georgetown.edu

Metabolomics houses several QTOF and triple quadrapole instruments (Waters) online with UPLC systems for targeted and untargeted metabolomic, studies, metabolite identification and drug metabolism studies. The data processing for metabolite biomarker studies is supported by the 'SIMCA-P' and the 'Random Forest software'. Services also include bioinformatics support on demand.

Glycomics has several workflows for analysis of protein glycosylation, which can be offered as specialty services. This includes workflows for analysis of detached glycans and analysis of glycopeptides:

1. Enzymatically detached N-glycans by UPLC-fluorescence
2. Enzymatically detached N-glycans by MALDI-MS
3. Site occupancy of glycopeptides
4. Site specific glycopeptide analysis (distribution of glycoforms)
5. Quantitative analysis of N- and O-glycopeptides by LC-MS/MS and LC-MS-MRM methods using, ABI 5600, Q-Star Elite, MALDI-TOF and Q-Trap 4000 instrumentation.

The detached glycan analysis can be applied to complex samples or isolated proteins. The site specific glycopeptide analyses and quantification apply primarily to isolated proteins or their simple mixtures

Contact core directors for more information.

http://lombardi.georgetown.edu/research/sharedresources/pmsr/services.html

ANIMAL MODELS SHARED RESOURCE/ZEBRAFISH SERVICE

Director of Zebrafish: Eric Glasgow, Ph.D.
t: (202) 687-7350, eg239@georgetown.edu

The role of the Zebrafish service is to give investigators ready access to fish and fish embryos, and expertise in the use of the zebrafish model organism. Zebrafish are amenable to a wide range of experimental manipulations because zebrafish embryos are easily obtained in large numbers, they are externally fertilized, transparent, permeable to small molecules and drugs, and undergo rapid organogenesis. In addition, they have many of the same tissues and organ systems as humans. Moreover, due to their small size, large numbers of fish can be housed for relatively low cost, facilitating genetic studies and the generation of numerous transgenic and mutant fish lines. The Resource Director, who has over fifteen years of experience working with zebrafish embryos, works closely with investigators to determine how zebrafish might be utilized to advance their cancer-related research. Contact core director for more information.

Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins

ANALYTIC PHARMACOLOGY

The Analytic Pharmacology Core provides analytical method design, implementation, validation and quantitative HPLC-based analysis to support pharmacological endpoints in the design and conduct of clinical trials and preclinical studies. Additional services include drug metabolism and protein binding of drugs.

Resource Director: Michelle Rudek, Pharm D., Ph.D.
t: (410) 614-6321, mrudek2@jhmi.edu,

CELL PROCESSING AND GENE THERAPY FACILITY

The cGMP facility manufactures clinical grade bio-therapeutic material and clinical implementation of novel cellular therapies for Phase I/II clinical studies.

Resource Director: M. Victor Lemas, Ph.D .
t: (410) 614-5411, mvlemas@jhmi.edu

University of Maryland Marlene and Stewart Greenebaum Cancer Center

STRUCTURAL BIOLOGY

The Structural Biology Shared Service (SBSS) helps researchers use the unique information derived from macromolecular structures to understand the molecular basis of cancer-causing cellular defects and to design drugs that mitigate such defects. SBSS is comprised of the X-ray Crystallography Shared Service (XRSS) and Nuclear Magnetic Resonance Shared Service (NMRSS), and is supported by medicinal chemistry (MC), computer-aided drug-design (CADD), and target validation/screening (TVS) resources.

Resource Director: David Weber, Ph.D.
t: (410) 706-4354,
dweber@som.umaryland.edu

GENOMICS/TGL

The Genomics Shared Service provides the expertise, advanced instrumentation, and training to support cutting-edge genomic research. The Genomics Shared Service combines three components: (1) Next generation sequencing (The Genomics Resource Center, Institute for Genome Sciences); (2) Gene expression profiling and genotyping (the Genomics Core Facility); and (3) Clinical genomics (in a CLIA-compliant environment) which includes sequencing, expression profiling and genotyping (The Translational Genomics Laboratory).

Resource Co-Director: Nicholas Ambulos, Ph.D.
t: (410) 706-8553,
nambulos@som.umaryland.edu

Resource Co-Director: Lisa Sadzewicz, Ph.D.
t: (410) 707-6734,
lsadzewicz@som.umaryland.edu

TRANSLATIONAL LAB

The Translational Lab Shared Service provides assistance with early-phase drug development clinical trials, including development of preclinical data to support hypotheses and development of assays to assess molecular effects of new agents. Support includes: (1) Generation of preclinical data to support development of Phase I/II clinical trial hypotheses; (2) Development of assays in model systems to report the effect of a drug on its intended target; (3) Applying relevant assays to a variety of tumor models in vivo and/or in vitro; and (4) Conducting specialized assays relevant to molecular effects of new agents.

Resource Director: Rena Lapidus, Ph.D.
t: (410) 328-8092,
rlapidus@som.umaryland.edu

University of Virginia Cancer Center

BIOMOLECULAR MAGNETIC RESONANCE FACILITY

The facility operates six NMR spectrometers which are well equipped for studies of large and small molecules in solution. Three spectrometers (800 MHz and two 600 MHz) have cryogenically cooled probes. Three more spectrometers (two 600 MHz and one 500 MHz) have room temperature probes; one of these 600 MHz spectrometers has an automated sample changer which can handle 500 samples.

Director: Jeff Ellena
t: (434) 924-3163, jfe@virginia.edu

http://www.medicine.virginia.edu/research/cores/bmrf/biomolecular-magnetic-resonance-facility.html

BIOMEDICAL MASS SPECTROMETRY LABORATORY: PROTEOMICS

This core identifies proteins in complex mixtures or isolated proteins using a Thermo Orbitrap instrument. Relative quantitation can be done by spectral counts or isotopic labeling. Selective Reaction Monitoring on a TSQ Quantum can give absolute quantitation of proteins of special interest.

Director: Nicholas Sherman
t: (434) 924-0070, nes3f@virginia.edu

http://www.medicine.virginia.edu/research/cores/biomolec/ProteinAnalysisbyMassSpectrometry/mass_spectrometry-core

MOLECULAR IMAGING CORE

This core images small animals by NMR, luminescence, fluorescence, position emission tomography and can combine images from two modalities. The core operates a cyclotron and chemistry facility to produce agents for PET imaging.

Director: Stuart Berr
t. (434) 924-5096, berr@virginia.edu

http://www.medicine.virginia.edu/research/cores/MolecularImagingCore

FLOW CYTOMETRY FACILITY

The Flow Cytometry resource facility provides a wide array of flow cytometry instrumentation and services. This facility has six benchtop analytical instruments ranging from 4-16 color fluorescence capabilities as well as 3 high speed cell sorters capable of up to 17 colors and BSL2 sorting. In addition, the facility is equipped with the latest imaging flow cytometry technology with a 12 channel, multi-magnification, Imagestream X MKII. The acquisition of a CyTOF mass cytometer brings the most recent advances in flow cytometric technology; capable of quantitatively evaluating up to 40 surface and intracellular markers simultaneously on a single cell basis. High-level expertise in assay design and data analysis is provided to complement these cutting edge technologies.

Director: Joanne Lannigan
t: (434) 924-0274,
joannelannigan@virginia.edu

http://www.medicine.virginia.edu/research/cores/FlowCytometry

LYMPHOCYTE CULTURE CENTER: MONOCLONAL ANTIBODY PRODUCTION

This core constructs lymphocyte-myeloma hybridomas for production of monoclonal antibodies which the core purifies.

Director: Bill Sutherland
t: (434) 924-5379, wms4f@virginia.edu

http://www.medicine.virginia.edu/research/cores/lymphoc