TRANSLATIONAL LABORATORY SHARED SERVICE

CIBR: Center for Innovative Biomedical Resources

CORE SERVICES

In Vitro Assays

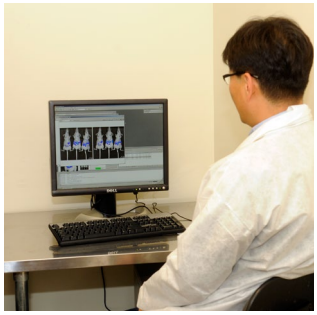
- IC50 generation
- Cell cycle (propidium iodide)
- Viability (trypan blue exclusion)
- Apoptosis
- Potentiation/Synergy
- ROS
- Western Analysis
- Angiogenesis
- Mycoplasma testing

Xcelligence

- Real time proliferation/invasion/migration

In Vivo Assays

- IACUC approved umbrella protocol
- Tolerability
- Tumor Growth
- Pharmacokinetics: generation of plasma
- Efficacy (flank models)
- Efficacy (orthotopic models)
- Pharmacodynamic Endpoints
- Imaging of cells with Xenogen System



Pharmacodynamic (PD) Endpoints

- in-patient samples, tumor or surrogate tissues, preclinical samples
- Endpoint dependent on target (e.g., ELISA, flow cytometry, Western, unique assay)

CRISPR Services

- Knock Down and Single Nucleotide Polymorphism

MISSION

The University of Maryland Greenebaum Comprehensive Cancer Center Translational Shared Service (TLSS) offers pre-clinical and clinical experimental support to basic researchers and physicians in the UMGCCC community. We work in areas across the entire spectrum: cell biology, *in vitro*, *in vivo* and human trials.

CORE RESOURCES

- Access to 80+ human cell lines
- Luciferase-expressing breast, head & neck, leukemia, ovarian and prostate cancer cell lines
- IACUC approved umbrella protocol
- Access/Knowledge in Using Xenogen/IVIS Imaging Mice
- Primary Derived Xenograft Models
  - Breast
  - Head and Neck (under development)
  - Leukemia (under development)
  - Ovarian (under development)
  - Pancreatic (under development)

Access to IRB approved protocol for tissue acquisition

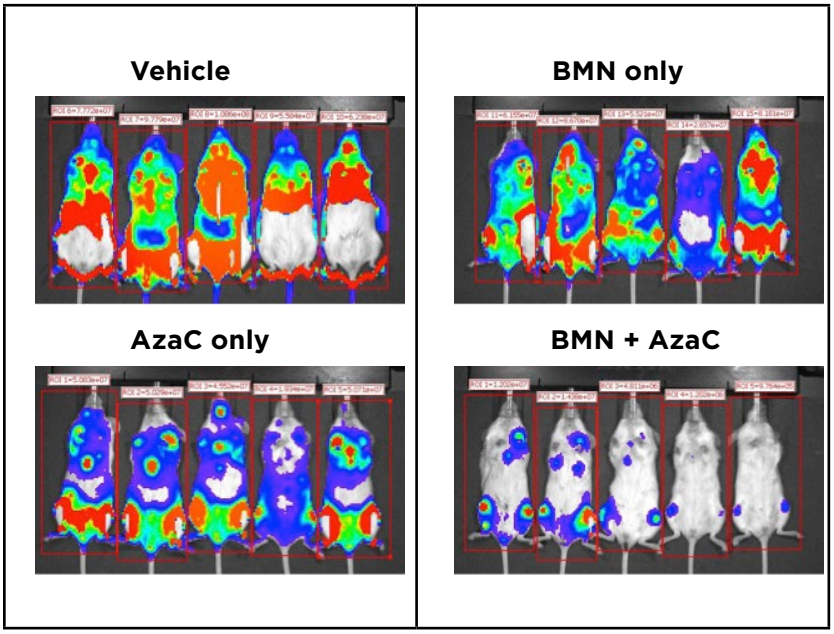
Clinical Trial Support

We isolate:

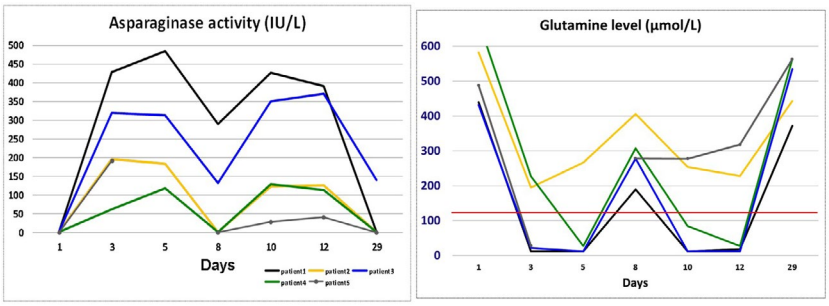
- Plasma
- Serum
- Whole Blood (isolation of PBMC, DNA, RNA, protein)
- Bone Marrow (isolation of marrow cells)
- Buccal Mucosa

TRANSLATIONAL LABORATORY SHARED SERVICE

CIBR: Center for Innovative Biomedical Resources



Combination BMN673 and 5-Azacytidine inhibit leukemia growth in NSG mice. Female NSG mice were injected intravenously with 1x106 cells human MV4-11-luc acute myelogenous leukemia cells. After engraftment, mice were sorted into 4 groups of 5 mice and treatment started. Mice received either vehicle, BMN 673 (oral dailyx5), 5-azacytidine (SC dailyx5) or the combination. The mice were imaged weekly on the Xenogen IVIS imaging system in the Imaging Core. Leukemia burden is depicted by quantity by color in order from high to low (red, orange, green, blue). Muvarak *et al.* Cancer Cell 30(4): 637-650, 2016



GCC 1336 Pharmacodynamic Effect of Asparaginae *Erwinia Chrysantehmi* on adults with relapsed refractory AML. Erwinase was able to deplete glutamine levels (collaboration with Biochemical Genetics lab at UMB) in the plasma of patients which corresponded to Asparaginase activity levels in plasma of patients at same time points. Five patients were treated with Erwinase on days 1, 3, 5, 8, 10 and 12. Plasma was isolated pre-treatment on each day. Glutamine levels were measured by LCMS in the Biochemical Genetics Lab and Asparaginase levels were measured in the TLSS. Emadi *et al.* Cancer Chemotherapy and Pharmacology 2017

CONTACT

Rena Lapidus, PhD, Director
rlapidus@som.umaryland.edu
Office: Bressler 7-043
410-706-3715

Tami J. Kingsbury, PhD
Leader, CRISPR Services
tkingsbury@som.umaryland.edu
Office: HSF-II, S103C
410-706-1202

Translational Laboratory Staff

Brandon Carter-Cooper, MS

Eun Yong Choi, MD

Elizabeth Chang, PhD

Kayla Tighe, BS

LOCATION

Room 7-010, Bressler Research Building
655 West Baltimore Street
Baltimore, MD 21201
410-706-2171

Web Address

http://medschool.umaryland.edu/cibr/Translational_Lab