

# 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

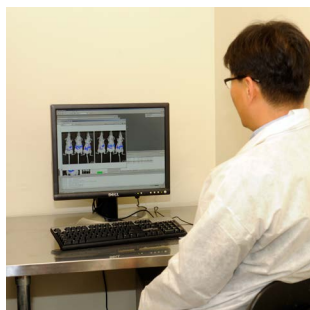


### **Xcelligence**

- Real time proliferation/invasion/migration

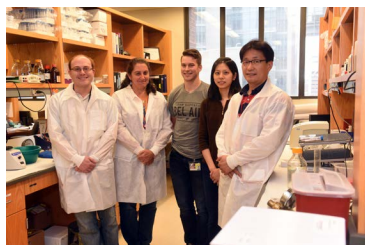
### **In Vivo Assays**

- 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)



## 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 50+ human cell lines
- Luciferase-expressing breast, leukemia, ovarian and prostate cancer cell lines
- IACUC approved umbrella protocol
- Access/Knowledge in Using Xenogen/IVIS Imaging Mice
- Primary Xenograft Models
  - Breast
  - Leukemia (under development)
  - Ovarian (under development)

Access to IRB approved protocol for tissue acquisition

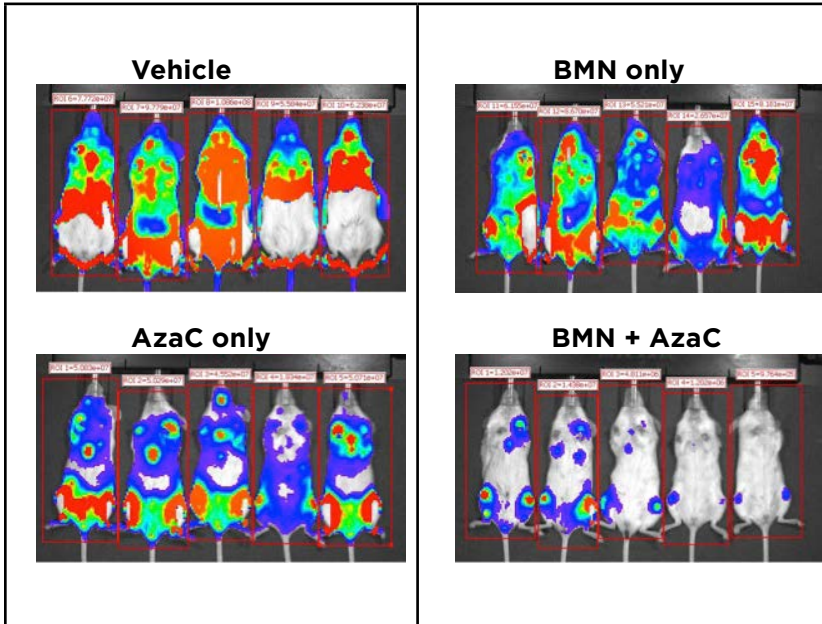
### **Clinical Trial Support**

We isolate:

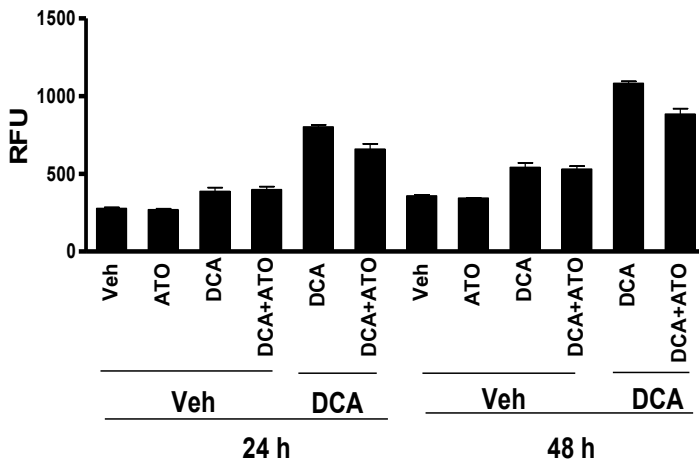
- Plasma
- Serum
- Tumor Biopsy
- Whole Blood (isolation of PBMC, DNA, RNA, protein)
- Bone Marrow (isolation of marrow cells)
- Buccal Mucosa

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Combination BMN673 and 5-Azacytidine inhibit leukemia growth in NSG mice. Female NSG mice were injected intravenously with  $1 \times 10^6$  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).



Dichloroacetate (DCA) augments Reactive Oxygen Species (ROS) production in the presence of arsenic trioxide (ATO) in human MOLM-14 acute myelogenous leukemia cells. Cells were stained with 5  $\mu$ M CM-H2DCFDA dye, plated in a 96 well format and then exposed to either Vehicle, DCA, ATO or their combination for 24 and 48 hours. ROS generation is monitored over time on the Biotek Synergy HT reader at 480/528 nm.

## CONTACT



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## Translational Laboratory Staff

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