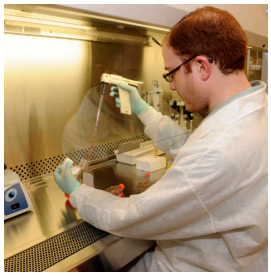
TRANSLATIONAL LABORATORY SHARED SERVICE

CIBR: Center for Innovative Biomedical Resources

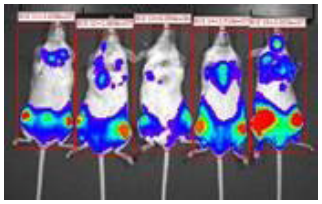
CORE SERVICES

***In Vitro* Assays**



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

***In Vivo* Assays**



- IACUC approved umbrella protocol
- Tolerability
- Tumor Growth
- Patient Derived Xenograft Models
- 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)

CORE INSTRUMENTATION

- ACEA Xcelligence
- Agilent SeaHorse
- Biotek Synergy HT

CRISPR SERVICES

https://www.medschool.umaryland.edu/cibr/Core/CRISPR/

- Gene Knock out
- Gene editing single nucleotide polymorphism

MISSION

The University of Maryland Greenebaum Comprehensive Cancer Center Translational Laboratory 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 >120 human/murine 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
  - Leukemia
  - Ovarian
  - 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)
- Staining of isolated lymphocyte cells
  - Coordination with Flow Cytometry Core for analysis
- Exosomes and ct DNA

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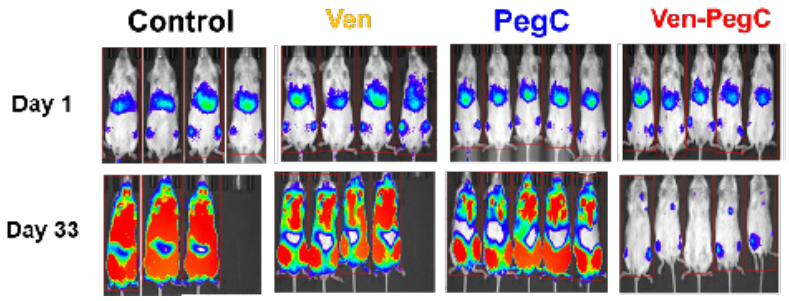
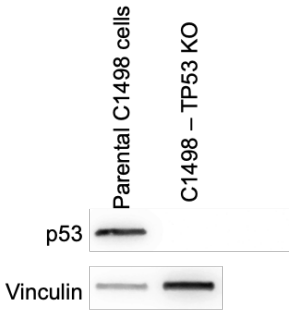
IN VIVO SERVICES

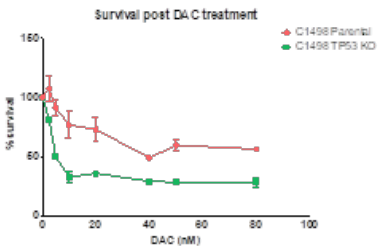


Combination of BCL2 inhibitor Venetoclax (Ven) and long acting Asparaginase (pegcrisantaspase or PegC) inhibits leukemia growth in an orthotopic patient derived xenograft (PDX) model of acute myeloid leukemia. NRG mice were injected with 1x106 AML45-luc-YFP-luc cells (primary cells gift of Drs. Martin Carroll and Alexander Perl, UPENN). After engraftment, mice were treated with vehicle, 75 mg/kg Ven PO 5x/week, 250 IU/kg PegC IV 1x/week or their combination. Mice were imaged weekly on the Xenogen IVIS spectrum in the Imaging Core. Leukemia burden is depicted by color from high to low (red, orange, green, blue). Emadi *et al* Leukemia 35(7): 1907-1924, 2021.

CRISPR SERVICES

Knock-out of p53 gene by CRISPR CAS9 in murine cell line C1498 increased sensitivity to decitabine. Kogan *et al*, 119(27) PNAS June 2021 epub ahead of print.





CONTACT

Rena Lapidus, PhD
Director, Translational Laboratoy
rlapidus@som.umaryland.edu
410-706-3715

Tony Passaniti, PhD
In Vivo Manager (PI of the AUP)
TPassaniti@som.umaryland.edu
410-328-5470

Katharina Richard, PhD
In Vivo Assistant Manager
krichard@som.umaryland.edu
410-706-2171

Brandon Carter-Cooper, MS
Leader, CRISPR Services
bcooper@som.umaryland.edu
410-706-2171

Translational Laboratory Staff

Xinrong Ma, MD

Kayla Tighe, BS

Andrea Casildo, 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/CORE/translational_lab

http://medschool.umaryland.edu/cibr/Core/CRISPR