

PIONEERS IN BIOMEDICAL RESEARCH SEMINAR

Presented by the Fralin Biomedical Research Institute at VTC and co-sponsored by the institute's Cancer Research Group



DONITA BRADY, Ph.D.

Harrison McCrea Dickson, M.D., and Clifford C. Baker, M.D.,
Presidential Professor, Department of Cancer Biology
Associate Investigator, Abramson Family Cancer Research Institute
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In Person Seminar: Copper Conducted Kinase Signaling in Cancer

Kinases respond to and, in some cases, sense inputs such as growth factors, nutrients, and metabolites, in order to relay information that drives complex cellular processes. Aberrant kinase activation disrupts the balance between cell growth and cell death and, consequently, can drive cancer initiation and progression. While kinase inhibitors have dramatically changed the landscape of cancer treatment, the near-universal emergence of resistance limits their clinical durability. Dr. Brady's research program is founded in a new paradigm in nutrient sensing and protein regulation, termed metalloallostery, whereby redox-active metals control kinase activity. The laboratory's focus lies at the intersection of kinase signaling and copper (Cu) homeostasis with the goal of defining the mechanisms regulating Cu-dependent kinases in order to target them in cancer through drug development or repurposing. The team's findings chart new ground in nutrient signaling, cellular energy homeostasis, and metabolic vulnerabilities in cancer, further establish Cu as a signaling molecule, define the molecular basis for a new Cu-dependent cellular process, and exploit Cu-dependent kinases to target oncogene-driven dependencies. The emergence of this new and clinically relevant signaling paradigm has highlighted the need to understand how redox-active metals interact with signaling pathways and underscores the promise of discovering new modes of kinase regulation as orthogonal therapeutic vulnerabilities.

FRIDAY, NOV. 18 at 11:00 a.m.

Room G101 A/B, 4 Riverside Circle

Watch live via Zoom at <https://FralinBioMed.info/PBR-Join>



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