

The Department of Pharmaceutical
and Biomedical Sciences
Research Seminar Series

Dr. John Cowell

Cancer Center Interim Director and Associate Director for Basic Science
Professor, Biochemistry and Molecular Biology, Neuroscience and Regenerative Medicine,
and Pathology
Augusta University

Wednesday, Oct. 18, 2017 | 11:00 AM | 201 PS

"Genes, Proteins and Cancer Therapies"



Cancer develops and progresses as a result of mutations in critical genes needed to keep normal cells normal. Identifying these genes creates an opportunity to design ways in which to specifically target the abnormal genes in specific cancer types. Through our research projects we are identifying ways in which we can potentially prevent metastasis, the major cause of cancer-related deaths, as well as investigate how to treat specific subtypes of acute myelogenous leukemia (AML). Research projects in the Cowell Laboratory are aimed at improving our understanding of the molecular genetic basis of cancer. A broad range of cell and molecular biology, proteomics, genomics, protein chemistry and animal modeling techniques are used to dissect the genetic contribution to various aspects of cancer predisposition, development and progression in a variety of tissue types.

Dr. Cowell's talk will cover two proteins that they have been working on as molecular targets for anti-cancer therapies. The WASF3 gene is a key player in the metastasis process and targeting this gene using genetic and pharmacological approaches can suppress metastasis and invasion. The FGFR1 protein, when rearranged in hematopoietic stem cells drives the development of a very aggressive form of AML through dysregulation of multiple pathways. This understanding of the molecular processes involved in tumor development identifies multiple targets for therapeutic interventions.



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