

Bankhead-Coley Cancer Research Program

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*Microbiology and Immunology
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*2009 Program
Shared Instrument Grant
(1-year project)*

Project Title: L.S.R. Fortessa + H.T.S. Flow Cytometry Analysis System

Project Summary: The use of flow cytometry in cancer research is a vital tool employed to facilitate the understanding of the complex processes that can lead to the initiation and subsequent development of malignant tumors, thus advancing progress towards potential cures. This grant is for an LSR-Fortessa-HTS flow cytometer. This instrument, the first in Florida, uses five lasers and nineteen fluorescence detectors, to measure, at high speed and sensitivity, light at multiple wavelengths from specifically targeted fluorescent reagents. Researchers can use this state-of-the-art instrument to perform many novel experiments, enabling them to employ the latest technologies to expand and to enhance the repertoire of assays that they can perform, many of which have been unavailable before now. Such novel experiments would include the use of fluorescent assays to dissect the processes and mechanisms involved in oncogenesis and malignancy by measuring, at high throughput and high speed, the presence of wide combinations of targets, with high statistical precision. Flow cytometry thus enables the rapid screening of cells for the molecular markers and cellular processes that may be associated with tumor growth, leading to the identification of potential targets for future therapeutic drugs and treatments.