

Bankhead-Coley Cancer Research Program

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*Pediatrics
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Florida Research Challenge
(2-year project)*

Project Title: Defining Ethnic-Specific Transcriptional Differences in Breast Tissue

Project Summary: Breast cancer (BC) is the second leading cause of cancer death among African-American (AA) women, and mortality is approximately 20 percent greater than that of Caucasian women. Ethnic-specific differences in BC stage of presentation and survival rates are well recognized. These differences are undoubtedly a result of extrinsic influences and inherent factors, i.e., genetic composition. A remaining challenge is to better understand and delineate these factors and their interactions, which confer differential risks for morbidity and mortality across racial/ethnic populations. Our long-term research goal is improved understanding of the genetic basis of BC in women of African ancestry and the translation of this knowledge into clinical practice. Recent observations by our group suggest distinct ethnic-specific gene expression patterns in both matched cancerous and normal breast tissue samples. We are exploring the question: Are there ethnic-specific differences in the transcriptome (expressed genes) of normal breast tissue? In this study, archived normal breast tissue samples from 25 AA and 25 Caucasian women with no BC history will be analyzed and compared for genome-wide gene expression differences. These observations may imply that AA women have an underlying pre-disposition to more aggressive BC due to gene-expression differences in normal breast tissue.