

Utilizing Tissue Microarray Technologies to Elucidate the Biological Causes for Ethnic Disparities in Breast Cancer

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The biological mechanisms that contribute to the development of breast cancer are not completely understood. Ethnic disparities in breast cancer incidence rates, tumor characteristics and survival suggest etiologic differences among ethnic populations. These observed disparities may provide clues into the key cellular pathways that regulate breast tumor development and progression. For example, although Hispanic women have a higher prevalence of obesity, an established risk factor for breast cancer, they have a lower incidence rate of breast cancer compared to non-Hispanic Caucasian women. Furthermore, histological differences have been previously reported among breast tumors when comparing these populations, and Hispanics with breast cancer are known to experience a higher risk of mortality after diagnosis. Evaluating the ethnic-specific relationships between breast cancer risk factors and pathological characteristics of breast tumors may provide unique insight into the biological mechanisms between breast cancer risk factors and breast tumor development. Among a subset of Hispanic and non-Hispanic Caucasian women who are participants in the SHINE Study, one of the largest multi-ethnic studies on breast cancer, we are currently collecting tumor blocks and establishing a valuable tissue microarray collection. This resource will provide the unique opportunity to link behavioral, genetic, and ethnic-related factors to the molecular pathology of the tumors.