Journal of Microbiology and Immunology

Abstract

miRNA Signatures of Triple Negative Breast Cancer in African-American Women

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Abstract:

Triple negative breast cancer (TNBC) in African American (AA) women has been shown to exhibit poor prognosis, resistance to therapies, and rapid progression to metastatic disease. These characteristics collectively contribute to the higher cancer mortality rate of BCa in AA women as compared to Non-Hispanic White (NHW) women. Micro-ribonucleic acids (miRNAs) are a class of non-coding endogenous RNA molecules that have been identified to play a role in tumorigenesis. However, only a few miRNAs have been investigated in regard to their role in cancer pathogenesis. Therefore, the goal of this study was to identify the specific miRNAs that play a role in the pathogenesis of TNBC in AA women, characterize their patterns of expression, identify their targeted genes as well as the corresponding signaling pathways.

Total RNA was isolated from micro-dissected tumor samples of TNBC and non-TNBC (NTN) AA patients, and global miRNA expression was performed using the Human v3 miRNA Expression Assay (Nanostring Technology). Receiving operating characteristic (ROC) analysis was conducted to determine the discriminatory power of the differentially expressed miRNAs between the two groups of cancer subtypes, TNBC and non-triple negative (NTN). The predicted functions of the identified differentially expressed miRNAs, identified in this screen, was performed using combinatorial target prediction algorithms along with Gene Ontology and pathway enrichment analysis. The association of the differentially expressed miRNAs with the clinical-pathological parameters was also analyzed.

Biography:

Dr. Safaa Turkistani is a the Vice Dean for Graduate Studies and Scientific Research in Fakeeh College for Medical Science . Skilled in Public Speaking, Molecular Biology, Cell Culture, Leadership, and Clinical Research. Strong media and communication professional with a Doctor of Philosophy - PhD focused in Tumor Biology from Georgetown University.

Recent Publications:

1. Dr Safaa Turkistani; miRNA Signatures of Triple Negative Breast Cancer in African-American Women; 2019

New Frontier's in Applied and Environmental Microbiology; April 24, 2020; London, UK

Citation: Dr Safaa Turkistani; miRNA Signatures of Triple Negative Breast Cancer in African-American Women; Applied Microbiology 2020; April 24, 2020; London, UK