

Fine Tuning of the Silver Bullet; Epigenetic Manipulation of Immune Checkpoints in Breast Cancer

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Programmed cell death protein-1 (PD-1) is an immune checkpoint receptor that prevents overstimulation of immune responses with an essential role in cancer immunity. Blockade of immune checkpoints especially PD-1/PD-L1 became a principle approach in cancer therapy. Different subtypes of Breast Cancer (BC) have different biological behaviors and distinct gene expression profiles. Moreover, microRNAs and Long-noncoding RNAs (LncRNAs) have gained wide spread attention recently as a critical key players in carcinogenesis but their underlying mechanisms remain limited. Our previous data revealed that overexpression of LncRNA; X inactive –specific transcript (XIST); negatively regulates PDL-1 in BC. Our work aims to investigate the impact of microRNAs and LncRNAs on PD-L1 in MDA-MB-231 cells, in addition to analyzing the differential expression of PD-L1 and non coding RNAs in different BC subtypes. Our data sheds the light on the differential expression of miR-182, MALAT-1 and XIST with a significant correlation to PD-L1 in TNBC and IDC. The data suggests a crucial role for these genes in the extent of evasion of cancer immunity in different BC subtypes.

Biography:

Dr. EL Tayebi is an assistant professor of Genetics and Genetic Engineering and she is heading the “Genetic Pharmacology Research Group” in the faculty of Pharmacy and Biotechnology, German University in Cairo (GUC), Egypt. El Tayebi received her bachelor degree with highly honored excellence from faculty of Pharmacy and Biotechnology, GUC, in 2008. In 2009, she has been appointed as assistant lecturer of molecular pathology and pathophysiology at the GUC. And in 2014, she started teaching Cell Biology and Genetic Engineering as an assistant professor.

She pursued her M.Sc. and PhD studies in the field of Molecular Pathology in the period from 2008-2012. She received her PhD degree with “Summa cum laude” from the GUC in 2012. After PhD, El Tayebi worked as a senior scientist and as a team leader of hepatocellular carcinoma (HCC) group under the umbrella of the MPRG. During her postdoctoral period (2012-2015), she focused on developing the research skills of her HCC team as well as her by developing new lab techniques, writing proposals and earning research funds. She has published more than 15 publications in peer-reviewed international journals. El Tayebi has supervised 10 M.Sc. theses and currently she is supervising another 8 M.Sc. thesis.