


**Down-regulation of onco resistance gene leading towards failure of chemotherapy in female breast cancer****Jazib Hussain<sup>1</sup>, Muhammad Naeem Faisal<sup>1</sup>, Faqir Muhammad<sup>1</sup>, Wafa Majeed<sup>1</sup>, Samen Saeed<sup>1</sup>, Humaira Muzaffar<sup>1</sup>, Aisha Mahmood<sup>1</sup> and Ahmed Abdulsadiq<sup>2</sup>**<sup>1</sup>University of Agriculture, Pakistan<sup>2</sup>Aswan University, Egypt

**T**umor is characterized by persistent proliferation and regeneration of cells. Breast cancer involving breast tissue and is most common cause of women death all over the world. Onset of breast cancer is following the down regulation of breast cancer resistance protein in breast carcinoma. Current study was designed to investigate the expression level of breast cancer resistance protein encoded by ABCG2 gene. Breast cancer resistance protein plays a pivotal role in contribution of resistance to multidrug therapy in female cancer patients as well as pharmacokinetics of xenobiotic and other anticancerous drug therapies. Current study investigate the role of microRNA signaling pathways through gene expression analysis by using

Qualitative real-time PCR. FOXO and micro-RNA play a key role in regulation of ABCG2 breast cancer resistance gene. ABCG2 gene is down regulated after statistically significant higher expression level of MIR 140, MIR 145 and MIR 328 in female breast cancer patients. Moreover, in female breast cancer patients' mTOR and Src genes are also highly expressed. Data was analyzed statistically by applying ANOVA, for significance of data DMR and graph pad prism 6 was used. Results concluded that the down regulation of ABCG2 gene will lead to failure of chemotherapy and multi-drug resistance in female breast cancer objectives.

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