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Galectin -3 contribute for drug resistance and EMT in TNBC

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Breast cancer is a heterogeneous disease with different subtypes. A higher incidence of a subtype defined by lack of expression of ER, PR as well as HER2, designated as Triple Negative Breast Cancers (TNBC), has been reported among Indian women (approximately 15-25%). This is the most aggressive form with poor prognosis and high recurrence rate. Expression of epithelial-mesenchymal transition-related is a major trait of cancer stem cells. The drug resistance, recurrence and disease progression is attributed to Cancer Stem Cells (CSCs). Galectin-3 (Gal-3) is involved in several pathological activities associated with tumor progression and chemo resistance. However, the role and molecular mechanism of Gal-3 activity in breast carcinoma epithelial-mesenchymal transition remain enigmatic. In the current study, we tried to examine the role of Gal-3 in EMT associated gene expression, tumor invasion, metastasis and apoptosis in hormone negative and hormone positive breast cancer cell lines. Knockdown of galectin-3 gene increases the sensitivity of MDA-MB-231 cells to drug-induced apoptosis as well as Expression of epithelial-mesenchymal transition-related associated gene expression suggesting that Galectin-3 may have a functional role in stem cell regulation in TNBCs.

Biography

Jeethy Ram has completed his MPhil in Biotechnology from Madurai Kamaraj University, Tamil Nadu and Masters in Biotechnology from Mahatma Gandhi University, Kottayam, Kerala. She has worked as a Junior Research Fellow in the Structural Biology Lab at Madurai Kamaraj University. She is currently pursuing his PhD in Regional Cancer Centre, Trivandrum.

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