Gayatri Devi V et al., J Cancer Sci Ther 2014, 6:9
http://dx.doi.org/10.4172/1948-5956.S1.038

OMICS Group Conferences
Accelerating Scientific Discovery

Global Cancer Conference & Medicare Summit
September 15-17, 2014 Hyderabad International Convention Centre, India

Role of CD151 in the induction of EMT in cancer stem cells

Gayatri Devi V, Anil Kumar Badana, Nagaseshu Pudi and Rama Rao Malla
GITAM University, India

Solid tumor contains highly malignant subpopulation of cells with stem cell properties like self-renewal, tumorigenecity and differentiation. Recent reports have suggested that epithelial mesenchymal transition (EMT) induction enhances self-rejuvenation and acquires stem cell properties. EMT is an orchestrated event characterized by switching of marker from non-motile epithelial to invasive mesenchymal cells. The major changes during EMT include loss of E-cadherin, Rho dependent changes in cell shape and secretion of proteases. The transcriptional reprogramming of epithelial tumor cells leads to loss of cell polarity and down regulation of cell-junction proteins. Recent study of targeting the 3' UTRs of EMT related mesenchymal genes by miRNA showed the suppression of snai2, VIM and CD151 expression. The multimeric complex of tetraspanin, CD151 with E-cadherins, integrins recruits proteinkinase C-β-II, transmembrane proteinkinase phosphatise (PTPμ) and promotes the association of cytoskeletal elements and supports cadherin mediated cell-cell adhesions. CD151 is a key mediator of cell-cell adhesion, EMT induction and tumor progression. CD151 play an important role in filopodia based adhesion zipper formation on one hand and cancer metastasis on other hand. The design and development of innovative shRNA therapeutic targeting CD151 may helpful in reducing EMT mediated CSC population in solid tumors.

Biography

Gayatri Devi V has completed her Post graduation in Biochemistry from GITAM University. She is currently working as a Junior Research Fellow in Department of Science & Technology (DST) funded project in the Dept. of Biochemistry, GITAM University, and Visakhapatnam under the guidance of Dr. Rama Rao Malla.

gayatri.varikuti@gmail.com