

## Editorial: Epithelial – to - Mesenchymal Transition in Cancer

Epithelial-mesenchymal transition (EMT) is a developmental process where there is down-regulation of epithelial characteristics with up-regulation of mesenchymal phenotypes. The conversion of an epithelial cell to a mesenchymal cell is critical to embryogenesis as it is involved in defining structural features of organ development. This process is reversible with an unstable intermediate. EMT can be physiological (developing embryo) or pathological (adult organism). Developmental EMT follow a defined sequence of events and is an organized process involving cell-cell and cell-ECM interaction, but pathological EMT occurs in an uncoordinated and cell-autonomous fashion leading to disruption of epithelial integrity and production of new mesenchymal cells perpetuating the disease process. This developmental program has been shown to be involved in cancer metastasis during which primary tumor metastasizes to a secondary site to form a secondary tumor.

Current interest in epithelial-mesenchymal transition (EMT) is due to its developmental importance and its involvement in several adult pathologies. Major advances are reported in identifying new model systems, transcriptional regulators viz. microRNA and chromatin structure), specific signaling pathways such as cAMP with their effector molecules.

In this special issue, recent developments in the EMT field are reviewed along with some new concepts which are being consolidated including partial EMT, resulting in a metastable phenotype in cancer systems, and reversed EMT in cancer progression as a mesenchymal-epithelial transition.

Both basic as well as clinical researchers in the fields of cell biology, developmental biology, and oncology will appreciate this up to date overview of the EMT process.

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