

miRNAs: Major Players in Non-Canonical Signaling Strategy

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ABSTRACT

Maintenance of homeostasis is a complex event in a multicellular organism, which is made possible by optimizing the functioning of various parts of the body through communications between different cell types that makes up the organism. The well-known mechanisms of inter-cellular communications involve, the autocrine, paracrine and endocrine loops of signaling, where, signaling molecules secreted by one cell type is sensed by another for an appropriate response. In these kinds signaling responses, the signal is processed in the cells either from its surface or through nuclear receptors to bring about a change in the expression pattern of genes leading to the phenotypic changes. Recent investigations in this field have identified the existence of a shortcut loop of signaling that involve the horizontal transfer of nucleic acids through exosomes, which are capable of altering the phenotype of the recipient cells. This talk is intended to discuss the importance of this signaling mode, under the light of results from our lab related to anti-cancer drug resistance and tumoral angiogenesis.