

## Emerging Diagnostic and Prognostic Role of Circulating Exosomes and DNAs/RNAs in Cancer

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### Abstract:

Despite recent progresses in cancer diagnosis and management, tumor malignancies consider as second cause of death after heart diseases worldwide. These malignancies are detected in late stages leading to ineffective therapy strategies. Therefore, recent efforts are mainly focused on the development of minimally invasive and easily available methods that could be employed in early screening and monitoring of cancer initiation and progression. Extracellular entities and vesicles (EVs) are released from almost all cell types into the body fluids like blood and can reflect the physiological characteristics of the cell of origin. In addition to cell free DNAs and RNAs, exosomes and their cargo are considered as stable cellular entities that could be traced in plasma of patients.

This lecture aims to update recent findings on the application of circulating vesicles, DNAs and RNAs in early detection, management of cancer and treatment response. Finally, we will discuss the challenges on the employment of circulating biomarkers in cancer management and summarize the novel studies that have resulted in remarkable advancements in cancer control.

### Keywords:

Cancer, Circulating biomarker, Exosome, Early diagnosis.