Extracellular Vesicles: Mechanisms in Human Health and Disease

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Mots-clés	Biomarkers [7], exosomes [8], microvesicles [9], miRNA [10]
Résumé en anglais	SIGNIFICANCE: Secreted extracellular vesicles (EVs) are now considered veritable entities for diagnosis, prognosis, and therapeutics. These structures are able to interact with target cells and modify their phenotype and function. Recent Advances: Since composition of EVs depends on the cell type of origin and the stimulation that leads to their release, the analysis of EV content remains an important input to understand the potential effects of EVs on target cells. CRITICAL ISSUES: Here, we review recent data related to the mechanisms involved in the formation of EVs and the methods allowing specific EV isolation and identification. Also, we analyze the potential use of EVs as biomarkers in different pathologies such as diabetes, obesity, atherosclerosis, neurodegenerative diseases, and cancer. Besides, their role in these diseases is discussed. Finally, we consider EVs enriched in microRNA or drugs as potential therapeutic cargo able to deliver desirable information to target cells/tissues. FUTURE DIRECTIONS: We underline the importance of the homogenization of the parameters of isolation of EVs and their characterization, which allow considering EVs as excellent biomarkers for diagnosis and prognosis.
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