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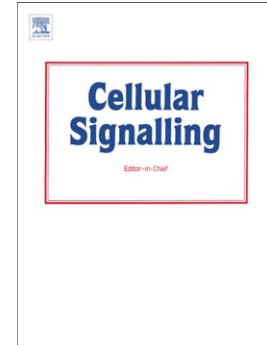
Extracellular functions of 14-3-3 adaptor proteins

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Extracellular functions of 14-3-3 adaptor proteins

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Abstract

14-3-3s are a family of adaptor proteins with a wide range of roles in cell signaling. Although they are primarily localized within the cytosol, 14-3-3s are also known to be present in the extracellular environment. Externalization of 14-3-3 can occur as a result of cell death or physiologically via release in exosomes. Interesting biological activities with relevance for tissue homeostasis and disease are now being described for extracellular 14-3-3s. Moreover, aminopeptidase N (APN) has been identified as a cell surface receptor for 14-3-3s. Here we review the array of bioactivities that have been ascribed to extracellular 14-3-3s and discuss applications as biomarkers and as targets for drug development.

Keywords: APN, CD13, MMP, stratifin, exosome, biomarker, 14-3-3

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