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BAG-1 protein prolongs cell survival

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ABSTRACT

BAG-1 (Bcl-2-associated athanogene-1) is a cytoprotective protein that blocks programmed cell death, which may be of paramount importance for human cancerogenesis. This molecular agent promotes cell survival due to its interaction with Bcl-2 as well as RA-induced decreased level of Bcl-2. To date, BAG-1 expression has been implicated in breast, lung, laryngeal and oral cavity cancers. It acts cardioprotectively and neuroprotectively whilst increasing the nerve cell survival rate. Its elevated levels accelerate neuronal cell differentiation. Thus its overexpression in brain cells inadvertently protects against brain attack due to its major roles in cell stress induced by hy poxia, radiation and treatment with cytotoxic drugs.

BAG-1 is a potential drug target to reduce the level of brain tissue damage in ischaemic and neurodegenerative disorders. BAG-1 increases growth factors that aid in liver and blood regeneration (PDGF, HGF). BAG-1 may represent a significant regulator of cell survival and growth, which contributes enourmously to tumorigenesis and resistance to therapy.

Keywords: Bag-1; Coactivator; Nuclear-Targeting, Tumor Cells, Growth Factors

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