PAC-1 (Procaspase Activating Compound 1) has been identified through high-throughput screening as a compound that may enhance the enzymatic activity of procaspase-3 in vitro. Procaspase-3 may be useful as an anticancer strategy due to its low frequency of mutations in cancer and expression of its enzyme in several types of cancers. PAC-1 converts procaspase-3 to active caspase-3 in vitro by chelating zinc ions and thereby inducing cell death in the tumor cells. In multiple cancer cell lines, PAC-1 was shown to trigger endoplasmic reticulum stress signaling and induce autophagy and mitochondria-mediated apoptosis.

References


