Hsp27 (HspB1) and alphaB-crystallin (HspB5) as therapeutic targets

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Abstract

Hsp27 and αB-crystallin are molecular chaperones that are constitutively expressed in several mammalian cells, particularly in pathological conditions. These proteins share functions as diverse as protection against toxicity mediated by aberrantly folded proteins or oxidative-inflammation conditions. In addition, these proteins share anti-apoptotic properties and are tumorigenic when expressed in cancer cells. This review summarizes the current knowledge about Hsp27 and αB-crystallin and the implications, either positive or deleterious, of these proteins in pathologies such as neurodegenerative diseases, myopathies, asthma, cataracts and cancers. Approaches towards therapeutic strategies aimed at modulating the expression and/or the activities of Hsp27 and αB-crystallin are presented.

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