

RP101 Inhibition of Chemoresistance and Metastasis

RP101 is the first small molecule known to bind to the heat shock protein Hsp27 and to modulate its effect.

Hsp27 is known to control the following cellular key functions:

- * Resistance against treatment with cytotoxic drugs
- * Development of metastases
- * Prevention of apoptosis

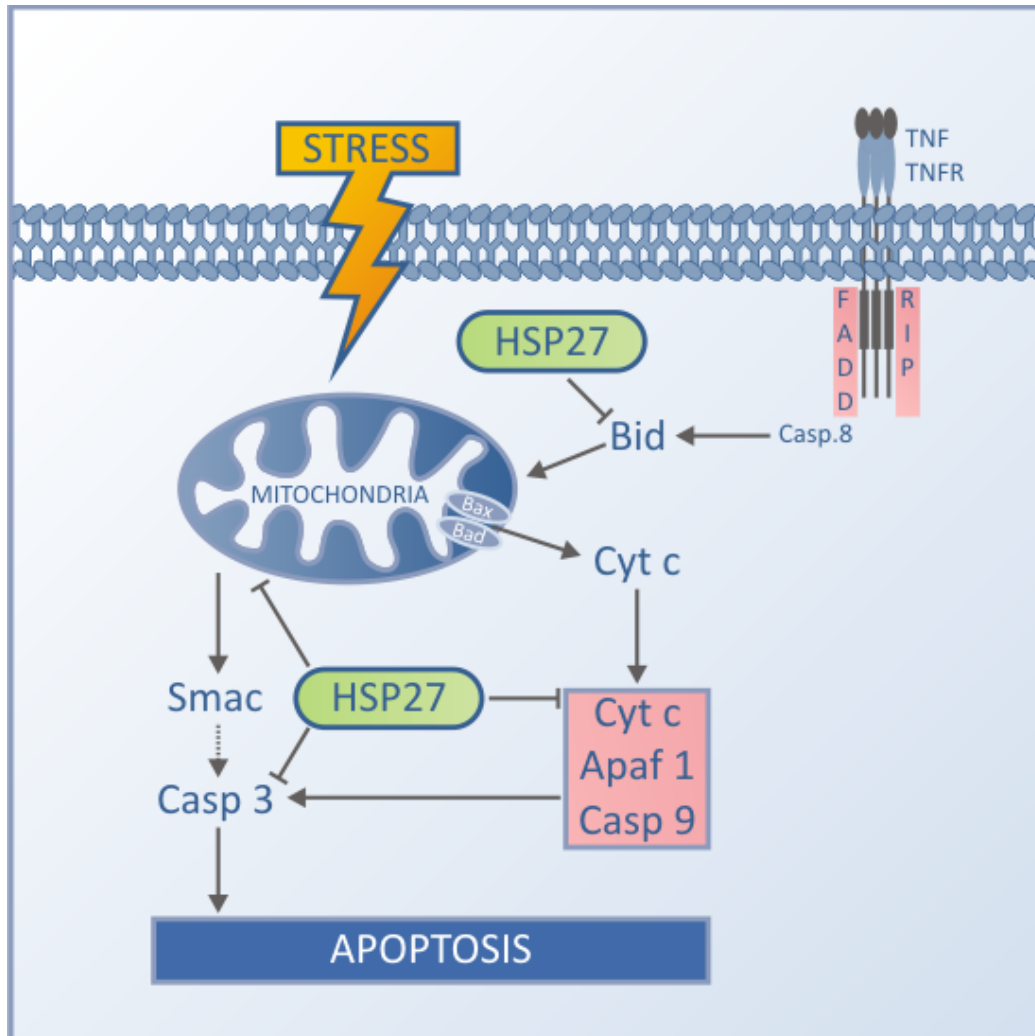
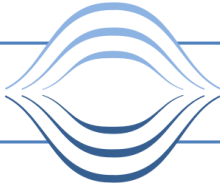
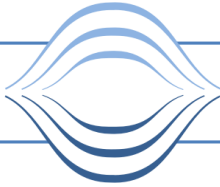


Figure: Modulation of apoptotic pathways by Hsp27. At the mitochondrial level, Hsp27, through Bid inhibits the mitochondrial release of pro-apoptotic proteins. At the postmitochondrial level, Hsp27 binds to cytochrome c resulting in the inhibition of apoptosome formation and thereby prevention of caspase activation and apoptosis. Hsp27 can also interact with and inhibit Daxx apoptotic pathway. Interaction of Hsp27 and Pro-caspase-3 has been described as well .

Item description



~~TNFR~~ NECROSIS FACTOR

~~TNFR~~ NECROSIS FACTOR RECEPTOR SUPERFAMILY

~~FADD~~ ASSOCIATED VIA DEATH DOMAIN

~~RIIP~~-INTERACTING PROTEIN

~~SMAC~~ MITOCHONDRIA-DERIVED ACTIVATOR OF CASPASE

~~Cyto~~CHROME C, SOMATIC

~~APAF~~PTOTIC PROTEASE ACTIVATING FACTOR 1

~~CASP~~ASE 3, APOPTOSIS-RELATED CYSTEINE PROTEASE

~~Casp~~ASE 8, APOPTOSIS-RELATED CYSTEINE PROTEASE

~~CASP~~ASE 9, APOPTOSIS-RELATED CYSTEINE PROTEASE

~~Bcl~~2-ASSOCIATED X PROTEIN

~~Bcl~~2 ANTAGONIST OF CELL DEATH

~~Bid~~-INTERACTING DOMAIN DEATH AGONIST