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Product datasheet for TA326365

HSP27 (HSPB1) Mouse Monoclonal Antibody [Clone ID: 5D12-A12]

Product data:

Product Type:	Primary Antibodies
Clone Name:	5D12-A12
Applications:	WB
Recommended Dilution:	WB: 0.25-0.5 ug/ml
Reactivity:	Human
Host:	Mouse
Isotype:	IgG2b, kappa
Clonality:	Monoclonal
Immunogen:	Human Hsp27
Formulation:	PBS pH7.4, 50% glycerol
Concentration:	lot specific
Purification:	Protein G Purified
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	heat shock protein family B (small) member 1
Database Link:	NP_001531 Entrez Gene 3315 Human P04792

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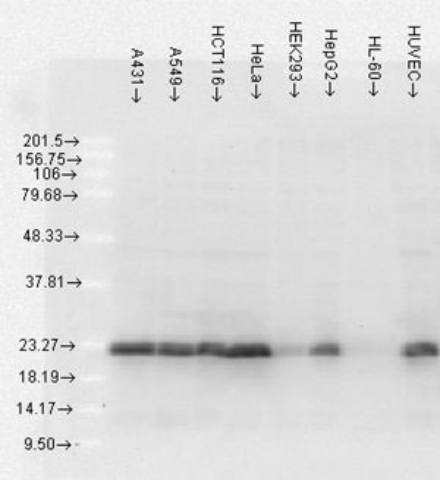
Background: Hsp27s belong to an abundant and ubiquitous family of small heat shock proteins (sHSP). It is an important HSP found in both normal human cells and cancer cells. The basic structure of most sHsps is a homologous and highly conserved amino acid sequence, with an -crystallin-domain at the C-terminus and the WD/EPF domain at the less conserved N-terminus. This N-terminus is essential for the development of high molecular oligomers . Hsp27-oligomers consist of stable dimers formed by as many as 8-40 Hsp27 protein monomers . The oligomerization status is connected with the chaperone activity: aggregates of large oligomers have high chaperone activity, whereas dimers have no chaperone activity .HSP27 is localized to the cytoplasm of unstressed cells but can redistribute to the nucleus in response to stress,where it may function to stabilize DNA and/or the nuclear membrane. Other functions include chaperone activity (as mentioned above), thermotolerance in vivo, inhibition of apoptosis, and signal transduction. Specifically, in vitro, it acts as an ATP-independent chaperone by inhibiting protein aggregation and by stabilizing partially denatured proteins, which ensures refolding of the HSP70 complex. Hsp27 is also involved in the apoptotic signaling pathway because it interferes with the activation of cytochrome c/Apaf-1/dATP complex, thereby inhibiting the activation of procaspase-9. It is also hypothesized that hsp27 may serve some role in cross-bridge formation between actin and myosin . And finally, Hsp27 is also thought to be involved in the process of cell differentiation. The up-regulation of Hsp27 correlates with the rate of phosphorylation and with an increase of large oligomers. It is possible that Hsp27 may play a crucial role in termination of growth .

Synonyms: CMT2F; HEL-S-102; HMN2B; HS.76067; Hsp25; HSP27; HSP28; SRP27

Note: Detects ~27kDa proteins corresponding to Hsp27 on SDS Page Immunoblots. Has no cross-reactivity to alphaB crystallin.

Protein Pathways: MAPK signaling pathway, VEGF signaling pathway

Product images:



Western blot analysis of Hsp27 in a variety of cells lines using a 1:1000 dilution of the antibody