

Hsp27 Recombinant Protein

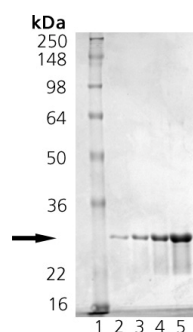
Product Specifications	
Catalog Number:	SPP-715
Product Description:	Human Hsp27 Recombinant Protein
Format:	20 mM Tris pH 7.5, 10 mM NaCl, 1 mM EDTA, 1 mM DTT
Application:	WB Control: 50-100 ng of protein recommended (Colorimetric) <i>The optimal dilution for a specific application must be determined by the investigator</i> <i>Other applications not tested</i>
Purity:	>90% pure as determined by SDS-PAGE and Western blot analyses
Molecular Weight:	~ 27 kDa observed
Concentration:	See product label
Storage:	Store at -70°C <i>Shipping conditions may differ from the recommended storage temperature</i>
Related Products:	
SPA-800	Hsp27 Monoclonal Antibody (G3.1)
LYC-HL101	HeLa Cell Lysate (Heat Shocked)
SAB-100	Goat anti-Mouse IgG(Fab) Polyclonal Antibody, HRP Conjugate
EKS-500	Hsp27 ELISA Kit
900-165	Hsp27 (phospho-Ser78) EIA Kit
SPP-716	Hsp27 (phospho) Recombinant Protein

Background:

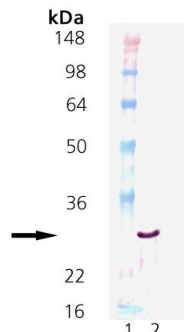
Human Hsp27, mouse Hsp25 and $\alpha\beta$ -crystallin are part of a diverse family of small heat shock proteins which are produced in all organisms. They function as chaperone-like proteins by binding unfolded polypeptides and preventing uncontrolled protein aggregation. Hsp27 is believed to exist mainly as oligomers of as many as 8-40 Hsp27 protein monomers in cells. Data suggests that the large oligomers of Hsp27 have a chaperone-like activity by serving as a site where unfolded proteins may bind until ATP and Hsp70-dependent refolding can occur¹. The phosphorylation and oligomerization state of Hsp27 has been suggested to regulate microfilament organization, since only the nonphosphorylated lower molecular weight forms of Hsp27 bind actin barbed ends and inhibit polymerization². Hsp27 is also believed to protect cells by enhancing cellular glutathione levels, as elevated glutathione levels have been measured in cells overexpressing Hsp27. Data from studies using wild-type Hsp27 and mutant forms in which the serine phosphorylation sites were mutated to alanines, glycines or aspartates have shown that cellular glutathione levels depend on the oligomerization of Hsp27³. Recent findings indicate a novel function for Hsp27 as a negative regulator of cytochrome c-dependent activation of procaspase-3⁴.

References:

1. Ehrnsperger, M., Graber, S., Gaestel, M. and Buchner, J. (1997) *EMBO J.* **16**: 221-229.
2. Benndorf, R., Hayess, K., Ryazantsev, S., Wieske, M., Behlke, J and Lutsch, G. (1994) *J. Biol. Chem.* **269**: 20780-20784.
3. Mehlen, P., Hickey, E., Weber, L.A. and Arrigo, A-P. (1997) *Biochem. Biophys. Res. Commun.* **241**: 187-192.
4. Pandey, P., Farber, R., Nakazawa, A., Kumar, S., Bharti, A., Nalin, C., Weichselbaum, R., Kufe, D, and Kharbanda, S. (2000) *Oncogene* **19**: 1975-1981.



SDS-PAGE Analysis of Hsp27 (SPP-715) stained with Coomassie. Lane 1: MWM; Lane 2: 0.5 µg; Lane 3: 1 µg; Lane 4: 2 µg; Lane 5: 5 µg.



Western Blot Analysis of Hsp27 probed with 1:1000 dilution of SPA-800. Lane 1: MWM; Lane 2: 100 ng SPP-715.

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