

PRODUCT INFORMATION



Hsp27 (human recombinant)

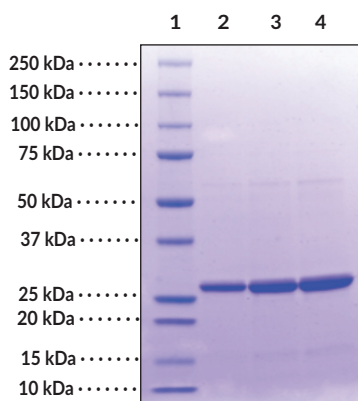
Item No. 22736

Overview and Properties

Synonym: Heat Shock Protein 27
Source: N-terminally His-tagged human Hsp27 (full length) purified from *E. coli*.
Amino acids: 2-205 (full length)
Uniprot No.: P04792
Molecular Weight: 25.5 kDa
Storage: -80°C (as supplied); avoid freeze/thaw cycles by storing protein in aliquots
Stability: ≥1 year
Purity: **batch specific** (≥90% as estimated by SDS-PAGE)
Supplied in: 50 mM Tris HCl, pH 7.5, 150 mM sodium chloride, 1mM DTT, 20% glycerol
Protein
Concentration: **batch specific** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: Hsp27 (1 µg)
Lane 3: Hsp27 (2 µg)
Lane 4: Hsp27 (4 µg)

Representative gel image shown; actual purity may vary between each batch.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Heat shock protein 27 (Hsp27), also known as heat shock protein beta-1 (HspB1), is a member of the small heat shock protein (sHSP) family that is upregulated during conditions of cellular stress including heat shock, radiation, hypoxia, and exposure to reactive oxygen species (ROS).^{1,2} It is composed of an N-terminal domain, a highly conserved alpha-crystallin domain, and a C-terminal domain. Hsp27 functions as a molecular chaperone to prevent protein aggregation in an ATPase-independent manner. This chaperone activity is altered by changes in oligomerization state or by post-translational modifications including phosphorylation at serine residues 15 and 82, which increases affinity for damaged polypeptides in response to heat shock.³ Hsp27 also works in complex with other chaperone proteins, such as Hsp70 (Item Nos. 22739 | 23002), to correct misfolded proteins. This protein also plays a role in apoptosis, proteasome activation, cell differentiation, and has been shown to interact with actin and intermediate filaments.⁴⁻⁶ Mutations in *HSPB1* have been linked to hereditary neuromuscular diseases and cause Charcot-Marie-Tooth Disease Type 2 (CMT-2).⁷

References

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4. Goloudina, A.R., Demidov, O.N., and Garrido, C. Inhibition of HSP70: A challenging anti-cancer strategy. *Cancer Lett.* **325(2)**, 117-124 (2012).
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