

# PRODUCT INFORMATION



## Hsp27 (human recombinant)

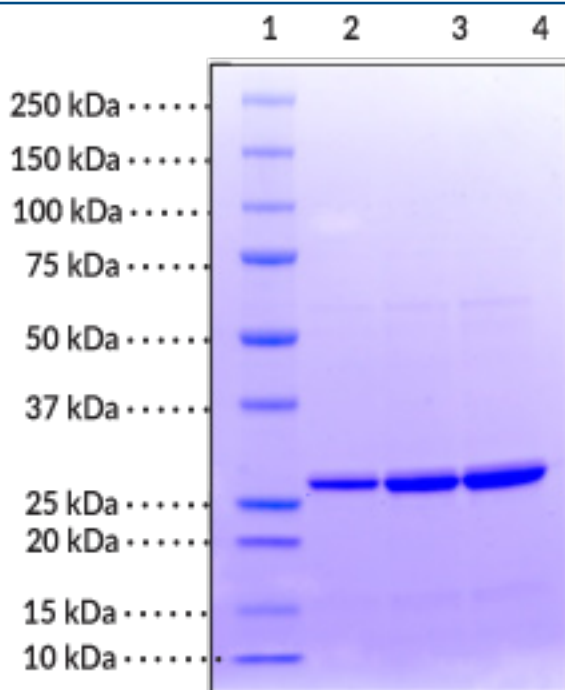
Item No. 22736

### Overview and Properties

**Synonyms:** CMT2F Protein, Estrogen-Regulated 24K protein, Hsp25 Protein, Hsp27 Protein, Hsp28 Protein, HspB1 Protein, 28 kDa HSP, SRP27 Protein  
**Source:** N-terminally Histidine-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 NaCl, 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(s)



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

**Representative gel image shown; actual purity may vary between batches but protein will be ≥90% pure.**

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.

Copyright Cayman Chemical Company, 08/18/2017

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

# PRODUCT INFORMATION



## Description

---

Heat Shock Protein 27 (HSP27) is a member of the *small heat shock protein* (sHSP) group of chaperones. HSP27 has been known to prevent protein aggregation<sup>1</sup>, and has been shown to be upregulated during cellular stress, such as heat shock, radiation, hypoxia and exposure to reactive oxygen species<sup>2</sup>. HSP27 acts through ATPase-independent mechanisms to work with other chaperone proteins to correct misfolded proteins. This protein also plays a role in apoptosis<sup>3</sup>, in activation of the proteasome, cell differentiation<sup>4</sup>, and has also been shown to interact with actin and intermediate filaments<sup>5</sup>. Additionally, mutations in HSP27 have been linked to hereditary neuromuscular diseases and have shown to be causative for Charcot Marie Tooth Disease Type 2 (CMT-2)<sup>6</sup>.

## References

---

1. Hendrick, J.P. and Hartl, F.U. Molecular chaperone functions of heat shock proteins. *Annu. Rev. Biochem.* **63**, 349-384 (1993).
2. Schlesinger, M.J. Heat shock proteins. *J. Biol. Chem.* **265**, 12111-12114 (1990).
3. Goloudina, A.R., Demidov, O.N., and Garrido, C. Inhibition of HSP70: a challenging anti-cancer strategy. *Cancer Lett.* **325(2)**, 117-124 (2012).
4. Kindås-Mügge, I. and Trautinger, F. Increased expression of the M(r) 27,000 heat shock protein (hsp27) in *in vitro* differentiated normal human keratinocytes. *Cell Growth Differ.* **5(7)**, 777-781 (1994).
5. Rousseau, S., Houle, F., Kotanides, H., *et al.* Vascular endothelial growth factor (VEGF)-driven actin-based motility is mediated by VEGFR2 and requires concerted activation of stress-activated protein kinase 2 (SAPK2/p38) and geldanamycin-sensitive phosphorylation of focal adhesion kinase. *J. Biol. Chem.* **275(14)**, 10661-10672 (2000).
6. Evgrafov, O.V., Meriyanova, I., Irobi, J., *et al.* Mutant small heat-shock protein 27 causes axonal Charcot-Marie-Tooth disease and distal hereditary motor neuropathy. *Nat. Genet.* **36(6)**, 602-606 (2004).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM