

Heat Shock Protein 70, human recombinant protein
Human Heat Shock Protein 70, Heat Shock Protein 70
Catalog # PBV10448r

Specification

Heat Shock Protein 70, human recombinant protein - Product info

Primary Accession [P08107](#)
Calculated MW **70.0 kDa** KDa

Heat Shock Protein 70, human recombinant protein - Additional Info

Gene ID **3303**
Gene Symbol **HSPA1A/1B**

Other Names

Human Heat Shock Protein 70, Heat Shock Protein 70

Gene Source **Human**
Source **E. coli**
Assay&Purity **SDS-PAGE; ≥98%**
Assay2&Purity2 **HPLC; ≥98%**
Recombinant **Yes**

Application Notes

Reconstitute in H₂O (solubility > 40 mg/ml), aliquot and store at -80 °C

Format

Lyophilized protein

Storage

-20°C; Lyophilized from 41 mM Tris, pH 8 containing 81 mM NaCl.

Heat Shock Protein 70, human recombinant protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Heat Shock Protein 70, human recombinant protein - Images

Heat Shock Protein 70, human recombinant protein - Background

HSP70 and HSP90 are molecular chaperones expressed constitutively under normal conditions to maintain protein homeostasis and are induced upon environmental stress. Both HSP70 and HSP90

are able to interact with unfolded proteins to prevent irreversible aggregation and catalyze the refolding of their substrates in an ATP- and co-chaperone-dependent manner. HSP70 has a broad range of substrates including newly synthesized and denatured proteins, while HSP90 tends to have a more limited subset of substrates, most of which are signaling molecules. HSP70 and HSP90 often function collaboratively in a multi-chaperone system, which requires a minimal set of co-chaperones: HSP40, Hop, and p23. The co-chaperones either regulate the intrinsic ATPase activity of the chaperones or recruit chaperones to specific substrates or subcellular compartments. When the ubiquitin ligase CHIP associates with the HSP70/HSP90 complex as a cofactor, the unfolded substrates are subjected to degradation by the proteasome. The biological functions of HSP70/HSP90 extend beyond their chaperone activity. They are essential for the maturation and inactivation of nuclear hormones and other signaling molecules. They also play a role in vesicle formation and protein trafficking.

Heat Shock Protein 70, human recombinant protein - References

- Milner C.M., et al. *Immunogenetics* 32:242-251(1990).
Hunt C., et al. *Proc. Natl. Acad. Sci. U.S.A.* 82:6455-6459(1985).
Xie T., et al. *Genome Res.* 13:2621-2636(2003).
Shiina S., et al. Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
Ota T., et al. *Nat. Genet.* 36:40-45(2004).