

HSPA2 Protein, Human (His)

Cat. No.:	HY-P701385
Synonyms:	HSPA2; Heat shock-related 70 kDa protein 2; Heat shock 70 kDa protein 2
Species:	Human
Source:	E. coli
Accession:	P54652 (S2-D639)
Gene ID:	3306
Molecular Weight:	Approximately 72 kDa

PROPERTIES

Appearance	Solution
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM HEPES, 200 mM NaCl, 20% glycerol, 1 mM DTT, pH 7.5.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background

HSPA2 protein, a molecular chaperone, engages in diverse cellular processes critical for proteome integrity. Its functions encompass safeguarding the proteome from stress, assisting in the folding and transport of newly synthesized polypeptides, activating the proteolysis of misfolded proteins, and orchestrating the formation and dissolution of protein complexes. As a key player in the protein quality control system, HSPA2 ensures the accurate folding of proteins, refolding of misfolded counterparts, and the targeted degradation of proteins. The regulation of substrate protein affinity is intricately linked to its nucleotide-bound state. In the ATP-bound state, HSPA2 exhibits low substrate protein affinity, but upon ATP hydrolysis to ADP, it undergoes a conformational change, enhancing its affinity for substrate proteins. This dynamic process involves repeated cycles of ATP hydrolysis and nucleotide exchange, allowing for successive substrate binding and release. Beyond its general cellular functions, HSPA2 plays a crucial role in spermatogenesis and may contribute to spindle integrity maintenance during meiosis in male germ cells when associated with SHCBP1L. Notably, it interacts with FKBP6 and ZNF541, highlighting its involvement in various cellular pathways and protein interactions. Additionally, HSPA2 forms part of the CatSper complex and shows preferential binding to GTP-bound RABL2, further expanding its functional repertoire.

Caution: Product has not been fully validated for medical applications. For research use only.

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