

## Product Data Sheet

## HSPA8/HSC70 Protein, Human (His, Solution)

Cat. No.:	HY-P73915		
Synonyms:	Heat shock cognate 71 kDa protein; LAP-1; HSPA8; HSC70		
Species:	Human		
Source:	E. coli		
Accession:	P11142-1 (M1-D646)		
Gene ID:	3312		
Molecular Weight:	Approximately 65 kDa		

## PROPERTIES

AA Sequence						
	MSKGPAVGID	LGTTYSCVGV	FQHGKVEIIA	NDQGNRTTPS		
	YVAFTDTERL	IGDAAKNQVA	ΜΝΡΤΝΤΥΕΟΑ	KRLIGRRFDD		
	АVVQSDMKHW	PFMVVNDAGR	PKVQVEYKGE	TKSFYPEEVS		
	SMVLTKMKEI	AEAYLGKTVT	ΝΑΥΥΤΥΡΑΥΕ	N D S Q R Q A T K D		
	AGTIAGLNVL	RIINEPTAAA	IAYGLDKKVG	AERNVLIFDL		
	GGGTFDVSIL	TIEDGIFEVK	STAGDTHLGG	EDFDNRMVNH		
	FIAEFKRKHK	KDISENKRAV	RRLRTACERA	KRTLSSSTQA		
	SIEIDSLYEG	IDFYTSITRA	RFEELNADLF	RGTLDPVEKA		
	LRDAKLDKSQ	IHDIVLVGGS	TRIPKIQKLL	QDFFNGKELN		
	KSINPDEAVA	YGAAVQAAIL	SGDKSENVQD	LLLDVTPLS		
	LGIETAGGVM	TVLIKRNTTI	РТКQТQТFТТ	Y S D N Q P G V L I		
	QVYEGERAMT	KDNNLLGKFE	LTGIPPAPRG	VPQIEVTFDI		
	DANGILNVSA	VDKSTGKENK	ITITNDKGRL	SKEDIERMVQ		
	ЕАЕКҮКАЕDЕ	KQRDKVSSKN	SLESYAFNMK	ATVEDEKLQG		
	KINDEDKQKI	LDKCNEIINW	LDKNQTAEKE	EFEHQQKELE		
	KVCNPIITKL	YQSAGGMPGG	MPGGFPGGGA	P P S G G A S S G P		
	TIEEVD					
	Uan70 has ATDass activity	at the time of manufacture	of 1 514M phoophoto libor			
BIOLOGICALACTIVITY	Hsp /U has ATP ase activity at the time of manufacture of $1.514 \mu$ M phosphate liberated/h/µg protein in a 200 µL reaction at 27°C in the presence of 10 µL of 4mM ATP using a Malashita Green assay					
	57 C III the presence of 10	µL 01 4111M ATP USING a Mala	ichite Green assay.			
Appearance	Solution					
Appearance	Solution.					
Formulation	Supplied as a 0.22 up filtered solution of PBS 10% glycerol, pH 7.5					
ronnutation	Supplied as a 0.22 $\mu$ m intered Solution of PDS, 10% glycerol, $\mu$ m 7.5.					
Endotovin Level	<1 EU/ug determined by LAL method					
Endotoxin Level	<μ EU/μg, determined by LAL method.					
Deconsititution	NI / A					
Reconstitution	N/A.					
Storago & Stability						
Storage & Stability	stored at -ou 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. AVold re	epealed freeze-thaw cycles.				

## DESCRIPTION

Background

HSPA8/HSC70, a molecular chaperone, is intricately involved in diverse cellular processes, including proteome protection from stress, facilitation of polypeptide folding and transport, chaperone-mediated autophagy, activation of misfolded protein proteolysis, and modulation of protein complex formation and dissociation. Central to the protein quality control system, it ensures correct protein folding, refolding of misfolded proteins, and regulates protein targeting for subsequent degradation. This function is orchestrated through cycles of ATP binding, ATP hydrolysis, and ADP release, facilitated by cochaperones. The nucleotide-bound state of HSP70 regulates its affinity for polypeptides, with ATP-bound form having low substrate affinity, and a conformational change upon ATP hydrolysis increasing the affinity for substrates. Co-chaperones, including J-domain co-chaperones (HSP40s), nucleotide exchange factors (NEFs) such as BAG1/2/3, and TPR domain chaperones like HOPX and STUB1, play specific roles in modulating HSP70 activity. Beyond its fundamental role in mitochondrial import, HSPA8/HSC70 also acts as a repressor of transcriptional activation, participates in the spliceosome assembly, and plays a role in selective protein degradation processes, including chaperone-mediated autophagy and ERassociated degradation. Additionally, it interacts with the VGF-derived peptide TLQP-21, indicating its involvement in diverse cellular pathways.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA