Recombinant Human HSPA1A Protein (Met1-Asp641), C-His tagged

Cat. No. HSPA1A-3358H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human HSPA1A (Met1~Asp641) protein fused with the C-terminal His tag was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	Met1-Asp641
Description	Molecular chaperone implicated in a wide variety of cellular processes, including protection of the proteome from stress, folding and transport of newly synthesized polypeptides, activation of proteolysis of misfolded proteins and the formation and dissociation of protein complexes. Plays a pivotal role in the protein quality control system, ensuring the correct folding of proteins, the re-folding of misfolded proteins and controlling the targeting of proteins for subsequent degradation. This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones. The co-chaperones have been shown to not only regulate different steps of the ATPase cycle, but they also have an individual specificity such that one co-chaperone may promote folding of a substrate while another may promote degradation. The affinity for polypeptides is regulated by its nucleotide bound state. In the ATP-bound form, it has a low affinity for substrate proteins. However, upon hydrolysis of the ATP to ADP, it undergoes a conformational change that increases its affinity for substrate proteins. It goes through repeated cycles of ATP hydrolysis and

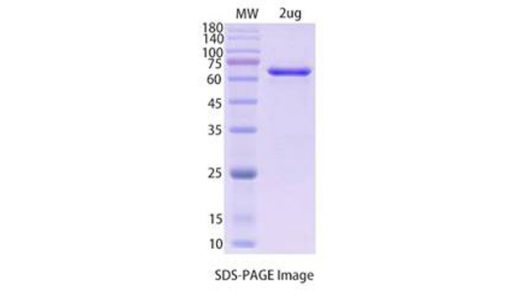
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	nucleotide exchange, which permits cycles of substrate binding and release. The co-chaperones are of three types: J-domain co-chaperones such as HSP40s (stimulate ATPase hydrolysis by HSP70), the nucleotide exchange factors (NEF) such as BAG1/2/3 (facilitate conversion of HSP70 from the ADP-bound to the ATP-bound state thereby promoting substrate release), and the TPR domain chaperones such as HOPX and STUB1.
Molecular Mass	70.92 kDa
Purity	>90 % as determined by SDS-PAGE.
Notes	For research use only.
Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 centigrade for one week. Store at -20 to -80 centigrade for twelve months from the date of receipt.
Storage Buffer	Supplied as solution form in 50 mM Tris-HCl pH 7.5, 150 mM NaCl or lyophilized from 50 mM Tris-HCl pH 7.5, 150 mM NaCl.
Reconstitution	Reconstitute in sterile water for a stock solution.
Shipping	In general, proteins are provided as lyophilized powder/frozen liquid. They are shipped out with dry ice/blue ice unless customers require otherwise.

GENE INFORMATION

Gene Name	HSPA1A heat shock 70kDa protein 1A [Homo sapiens (human)]
Official Symbol	HSPA1A

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Synonyms	HSPA1A; heat shock 70kDa protein 1A; heat shock 70kD protein 1A, HSPA1; heat shock 70 kDa protein 1A/1B; HSP70 1; HSP70-1/HSP70-2; HSP70.1/HSP70.2; heat shock 70kD protein 1A; heat shock-induced protein; heat shock 70 kDa protein 1/2; dnaK-type molecular chaperone HSP70-1; HSP72; HSPA1; HSP70I; HSPA1B; HSP70-1; HSP70-1A; FLJ54303; FLJ54370; FLJ54392; FLJ54408; FLJ75127;
Gene ID	3303
mRNA Refseq	NM_005345
Protein Refseq	NP_005336
MIM	140550
UniProt ID	P0DMV8
SDS-PAGE	 SDS-PAGE Image

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