

Recombinant Human HSP70 Protein, His-tagged

Cat. No. HSPA1A-426H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human HSPA1A (NP_005336.3) (Ala2-Asp641) was expressed with a polyhistidine tag at the N-terminus.
Species	Human
Source	HEK293
ProteinLength	Ala2-Asp641
Description	HSPA1A is a member of the Hsp70 protein family. The 70 kilodalton heat shock proteins (Hsp70s) are a family of ubiquitously expressed heat shock proteins. HSP are abundant and conserved proteins present in all cells. Upon temperature shock or other stress stimuli, HSP are synthesized intracellularly, which may protect cells from protein denaturation or from death. Extracellularly, HSP can serve a cytokine function to initiate both innate and adaptive immunity through activation of APC. HSP serves also a chaperone function and facilitates presentation of antigen peptide to T cells. Molecular chaperones of the Hsp70 family have diverse functions in cells. They assist the folding of newly synthesized and stress-denatured proteins, as well as the import of proteins into organelles, and the dissociation of aggregated proteins. The well-conserved Hsp70 chaperones are ATP dependent: binding and hydrolysis of ATP regulates their interactions with unfolded polypeptide substrates, and ATPase cycling is necessary for their function. All cellular functions of Hsp70 chaperones use the same mechanism of ATP-driven polypeptide binding and release.

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Predicted N Terminal	Met
Form	Lyophilized from sterile PBS, pH 7.4. Normally 5 %- 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.
Molecular Mass	The recombinant human HSPA1A consists of 651 amino acids and predicts a molecular mass of 71.4 kDa.
Endotoxin	< 1.0 EU per µg protein as determined by the LAL method.
Purity	> 95 % as determined by SDS-PAGE.
Storage	Samples are stable for up to twelve months from date of receipt at -70 centigrade. Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

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

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Gene ID	3303
mRNA Refseq	NM_005345
Protein Refseq	NP_005336
MIM	140550
UniProt ID	P08107

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