Human HSP70 / HSPA1A Protein (His Tag)

Catalog Number: **11660-H07B**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

HEL-S-103; HSP70-1; HSP70-1A; HSP70I; HSP72; HSPA1

Protein Construction:

A DNA sequence encoding the human HSPA1A (NP_005337.2) (Ala2-Asp641) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 85 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its ability to bind human PARP1 in a functional ELISA. 2. Measured by its ability to bind mouse PARP1 in a functional ELISA.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: His

Molecular Mass:

The recombinant human HSPA1A consists of 658 amino acids and predicts a molecular mass of 72.2 kDa.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% gly

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

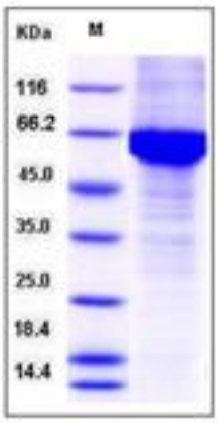
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein 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.

References

1.Heck TG, *et al*. (2011) HSP70 expression: does it a novel fatigue signalling factor from immune system to the brain Cell Biochem Funct. 29 (3): 215-26. 2.Chen T, *et al*. (2010) Stress for maintaining memory: HSP70 as a mobile messenger for innate and adaptive immunity. Eur J Immunol. 40 (6): 1541-4. 3.Young JC. (2010) Mechanisms of the Hsp70 chaperone system. Biochem Cell Biol. 88 (2): 291-300.