Mouse HSP70 Protein (His Tag)

Catalog Number: 57562-M07H

General Information

Gene Name Synonym:

hsp68; Hsp70-3; Hsp70.3; hsp70A1; Hsp72

Protein Construction:

A DNA sequence encoding the mouse HSPA1A (NP_034609.2) (Ala2-Asp641) was expressed with a polyhistidine tag at the N-terminus.

Source: Mouse

Expression Host: HEK293 Cells

QC Testing

Purity: ≥ 95 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.

Endotoxin:

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

Predicted N terminal: Met

Molecular Mass:

The recombinant mouse HSPA1A consists of 651 amino acids and predicts a molecular mass of 71.5 kDa. It migrates as an approximately 64.3 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, 0.5mM EDTA, pH 7.4.

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

Stability & Storage:
Samples are stable for twelve months from date of receipt at -20℃ to -80℃.

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 is synthesized intracellularly, which may protect cells from protein denaturation or 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 the 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 regulate 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.