

# Recombinant Rat HSP70 Protein

Catalog No.: RP02877 **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Rat	24472	PODMW0

### Tags

N-His

### Synonyms

Hsp70-1; Hspa1

## Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

Calculated MW	Observed MW
71.6 kDa	65.1 kDa

### Endotoxin

&lt;1EU/μg

### Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

### Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

## Contact

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## Background

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.

## Basic Information

### Description

Recombinant Rat HSP70 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala2-Asp641) of rat HSP70 (Accession #NP\_114177.2) fused with and a 6×His tag at the N-terminus.

### Bio-Activity

### Storage

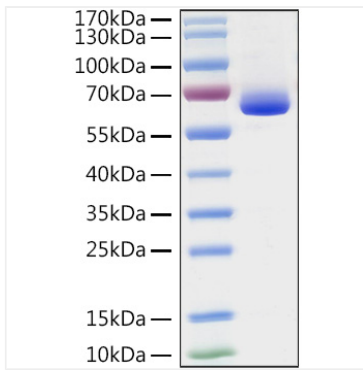
Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

## Validation Data

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Recombinant Rat HSP70 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 65 kDa.