

# Recombinant Rat HSP70 Protein

**Catalog No.: RP02877**

## Sequence Information

**Species**      **Gene ID**  
Rat              24472

**Swiss Prot**    **Tags**  
P0DMW0      N-His

**Synonyms**  
Hsp70-1, Hspa1

## Product Information

**Source**              **Purification**  
HEK293 cells      ≥ 95 % as  
determined by  
SDS-PAGE.

**Calculated MW** **Observed MW**  
71.6 kDa          65.1 kDa

**Endotoxin**  
< 1 EU/μg of the protein by LAL  
method.

**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.

## 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.

### Activity

### Shipping

Lyophilized proteins are shipped at ambient temperature.  
Liquid proteins are shipped at frozen temperature with dry ice.  
Upon receipt, store it immediately at the temperature recommended below.

### Storage

Store at -20°C

### Operational Notes

For your safety and health, please wear a lab coat and disposable gloves for handling.

## Contact

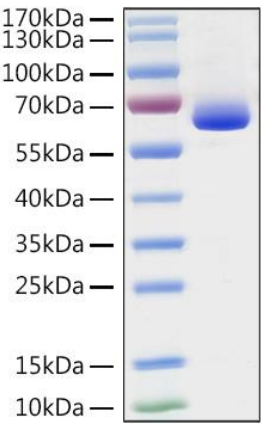
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**Validation Data**

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Recombinant Rat HSP70 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.