HSP70-A1 (low endotoxin) (mouse), (recombinant)

Recombinant mouse HSP70-A1 (low endotoxin) that functions as a molecular chaperone in protein folding and stress response.

The mouse heat shock protein Hsp70-A1 is one of the three Hsp70 genes located in the central region of the mouse MHC. Similar clusters of MHC-linked Hsp70 genes occur in rat and human. The human Hsp70-A1 shares 98.2% identity in the amino acid sequence with murine Hsp70-A1. A comparison of the nucleotide sequences of the three human Hsp70 genes from various haplotypes reveals very limited sequence variation not associated with amino acid polymorphism. Murine Hsp70-A1 belongs to the Hsp70 family of highly-related protein isoforms ranging in size from 66-78 kDa. One of them, the 70 kDa heat shock cognate protein Hsc70, shares close biochemical and biological ties to Hsp70. These proteins include both cognate members found within major intracellular compartments and highly inducible isoforms predominantly cytoplasmic or nuclear in distribution. Members of the Hsp70 family function as molecular chaperones involved in such cellular functions as protein folding, transport, maturation and degradation, and they exert their function in an ATP-dependent manner. The molecular chaperones of the Hsp70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins, preventing their aggregation and misfolding, and the binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein. Data demonstrates that BAG-1, with a ubiquitin-like domain at its amino terminus and an association with the 26S proteosome in HeLa cells, modulates the chaperone activity of Hsc70 and Hsp70. These findings reveal BAG-1's role as a physical link between the Hsc70/hsp70 chaperone system and the proteasome. Experimental data also shows that the ATPase domain and the substrate binding domain of Hsp70 (or Hsc70) cooperate and form a cochaperone-chaperone complex with the synaptic vesicle cysteine string protein (csp) essential for normal neurotransmitter release.

Citations: 5 View Online »

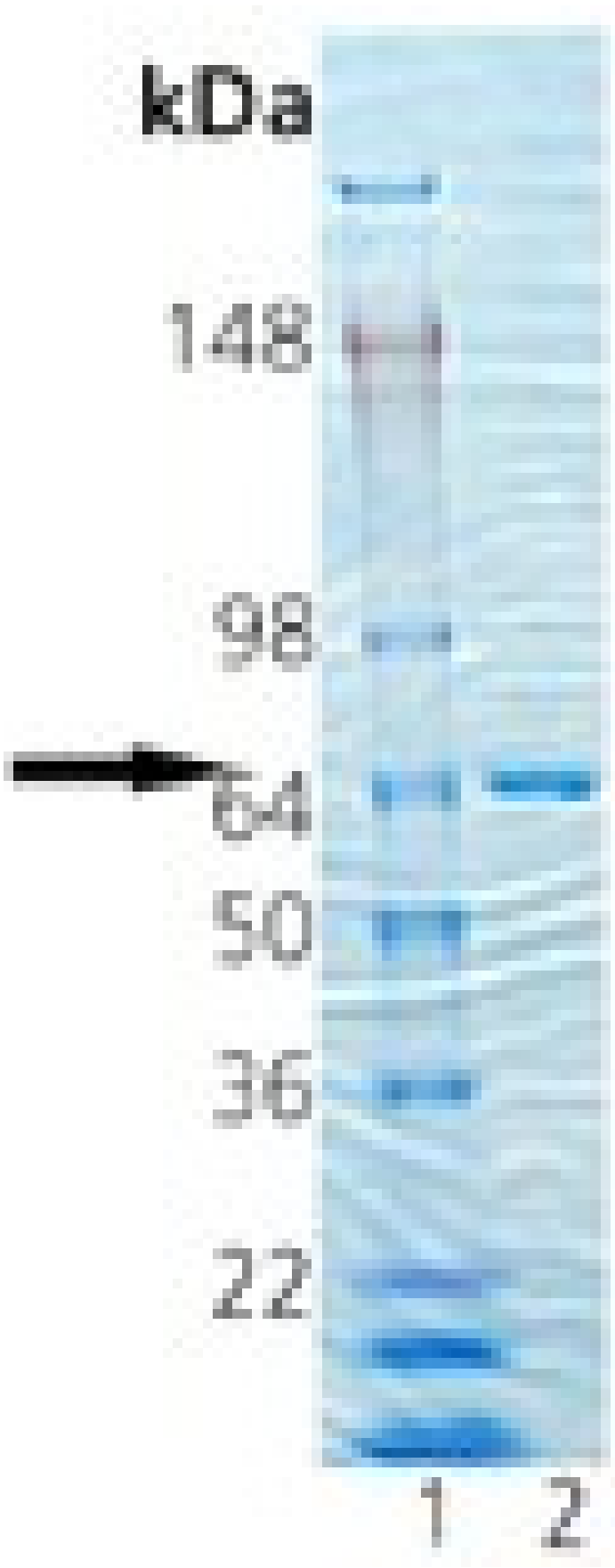
Ordering Information

Order Online »

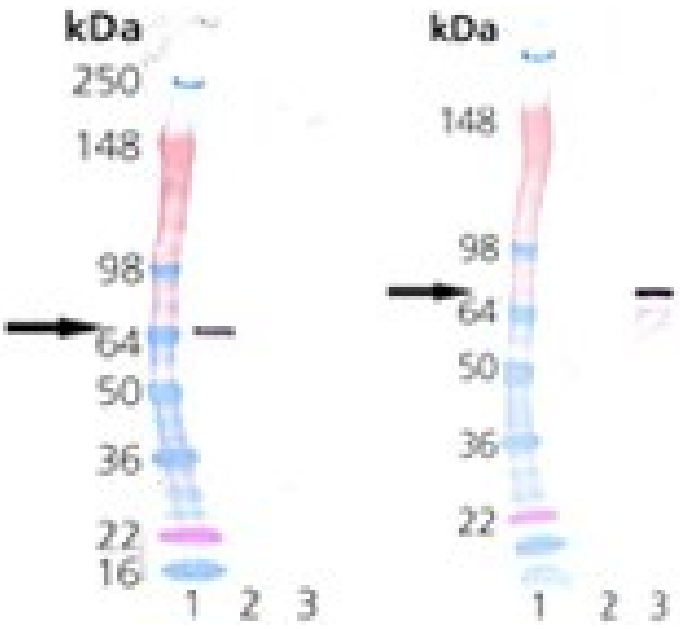
ADI-ESP-502-D	50µg

Manuals, SDS & CofA

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SDS-PAGE analysis: Lane 1: MW marker, Lane 2: 0.5µg of purified Mouse HSP70-A1 Protein (Prod. No. ADI-SPP-502).



Western Blot analysis: Lane 1: MWM; Lane 2: 10ng HSP70-A1 Protein (Prod. No. ADI-SPP-502); Lane 3: 100ng E. coli DnaK Protein (Prod. No. ADI-SPP-630); Left: probed with HSP70 mAb (Prod. No. ADI-SPA-810) at 1µg/ml; Right: probed with DnaK mAb (Prod. No. ADI-SPA-880) at 0.1µg/ml.

Handling & Storage

Long Term Storage	-80°C
Shipping	Dry Ice

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name	Heat shock protein 70
Application Notes	ATPase activity assay (positive). Western blot control.
Endotoxin Content	<50EU/mg purified protein (LAL test)
Formulation	Liquid. In 1x Dulbecco's PBS, pH 7.4, containing 5.0mM glutathione.
MW	~70kDa (observed)
Purity	≥90% (SDS-PAGE; Western blot)
Purity Detail	Purified by multi-step chromatography.
Source	Produced in *E. coli*.
UniProt ID	Q61696 (Hspa1a), P17879 (Hspa1b)

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