

Hsp70(Hsp72) Active Recombinant Protein

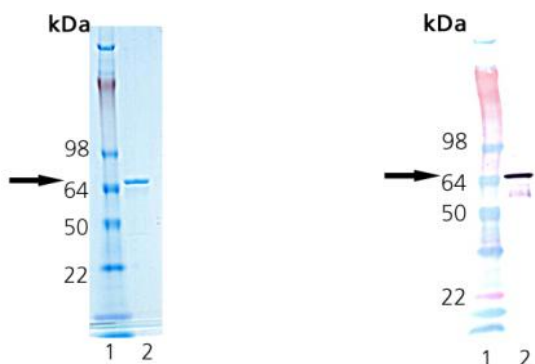
Product Specifications	
Catalog Number:	SPP-758
Product Description:	Rat Hsp70 Protein
Format:	Stored in 50 mM Tris pH-7.5, 1.0 mM DTT, 100 mM NaCl, 0.1 mM PMSF
Application:	WB Control: 100 ng of protein recommended (Colorimetric) ATPase Activity Assay: Positive <i>The optimal dilution for a specific application must be determined by the investigator</i>
Purity:	>90% pure as determined by SDS-PAGE and Western blot analyses. This protein does not contain DnaK as demonstrated by western blot analysis using product SPA-880.
Molecular Weight:	~ 72 kDa observed
Concentration:	See product label
Storage:	Store at -70°C <i>Shipping conditions may differ from the recommended storage temperature</i>
Related Products:	
SPA-810	Hsp70 Monoclonal Antibody
SPA-811	Hsp70(Hsp72) Polyclonal Antibody
LYC-PC101	PC-12 Cell Lysate (Heat Shocked)
SAB-101	Goat anti-mouse Polyclonal Antibody
EKS-700B	Hsp70 ELISA Kit

Background:

The 70 kDa heat shock protein Hsp70 belongs to the Hsp70 family of highly-related protein isoforms ranging in size from 66 kDa to 78 kDa. Hsc70 shares close biochemical and biological ties to Hsp70, and also belongs to the Hsp70 family. These proteins include cognate members found within major intracellular compartments and highly inducible isoforms predominantly cytoplasmic or nuclear in distribution¹. Members of the Hsp70 family function as molecular chaperones involved in such cellular functions as protein folding, transport, maturation and degradation, operating in an ATP-dependent manner. The molecular chaperones of the Hsp70 family recognize and bind to nascent polypeptide chains or 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 protein². Data demonstrates that with a ubiquitin-like domain at its amino terminus and its association with the 26S proteasome in HeLa cells, Bag-1 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 proteasome³. Experimental data also shows that the ATPase domain and the substrate binding domain of Hsp70 (or Hsc70) cooperate to form a co-chaperone-chaperone complex with the synaptic vesicle cysteine string protein (csp), essential for normal neurotransmitter release⁴.

References:

1. Tavoria, M., et al. (1996) Cell Stress Chaperones **1**, 23-28.
2. Fink A.L. (1999) Physiol Rev. **79**, 425-449.
3. Luders, J., et al. (2000) J Biol Chem **275**,4613-4617.
4. Stahl B., et al. (1999) Eur J Cell Biol. **78**, 375-381.



Left: SDS-PAGE Analysis of 0.5 µg purified Rat Hsp70 Protein (SPP-758).

Right: Western Blot Analysis of 100 ng of purified Rat Hsp70 Protein (SPP-758) probed with Anti-Hsp70 Monoclonal Antibody (SPA-810) at 1 µg/ml.

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