

# Anti-Hsp70/Hsc70



## TECHNICAL SPECIFICATIONS

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## Rabbit Anti-Hsp70/Hsc70 Polyclonal Antibody Product #: SPA-758

### Immunogen

Recombinant chinook salmon Hsp70 protein.

### Specificity

This antibody detects ~70 kDa and ~73 kDa proteins, corresponding to the apparent molecular mass of Hsp70 (Hsp72) and Hsc70 (Hsp73) respectively on SDS-PAGE immunoblots, in samples from fish origin.

### Species Reactivity

chum salmon, carp, rainbow trout

### Applications

### Certified\*

Western Blot (ECL)	1:50,000
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\*These working dilutions are provided as suggestions only. Further dilutions may be possible. Each user should determine the optimal conditions for their own particular experiment.

### Positive Controls

Rainbow Trout Gonad Heat Shocked Cell Lysate, Product#: LYC-TG101

### Scientific Background

The 70 kDa heat shock protein, Hsp70 is closely related biochemically and biologically to the heat shock cognate protein, Hsc70 and is part of the Hsp70 family which contains a number of highly-related protein isoforms ranging in size from 66 kDa to 78 kDa. These proteins include both cognate members which are found within major intracellular compartments and highly inducible isoforms which appear to be predominantly cytoplasmic or nuclear in distribution (1). Members of the Hsp70 family are molecular chaperones which are involved in many cellular functions such 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 (2). Recent data has demonstrated that BAG-1 which possesses a ubiquitin-like domain at its amino terminus modulates the chaperone activity of Hsc70 and Hsp70. These findings reveal a role of BAG-1 as a physical link between the Hsc70/Hsp70 chaperone system and the proteasome (3). There is also experimental data which shows that the ATPase domain and the substrate binding domain of Hsc70 cooperate and form a cochaperone-chaperone complex with the synaptic vesicle cysteine string protein (csp) which is essential for normal neurotransmitter release (4).

### References

1. Tavoria, M., Gabriele, T., Kola, I. and Anderson, R.L. (1996) *Cell Stress & Chaperones* 1: 23-28.
2. Fink, A.L. (1999) *Physiol Rev* 79: 425-449.
3. Luders, J., Demand, J. and Hohfeld, J. (2000) *J Biol Chem* 275: 4613-4617.
4. Stahl, B., Tobaben, S. and Sudhof, T.C. (1999) *Eur. J. Cell Biol* 78: 375-381.

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## CERTIFICATE OF ANALYSIS

# Anti-Hsp70/Hsc70

**Product #:** SPA-758

**Size:** 100 µL

**Lot #:** 912409

**Format:** Whole rabbit serum

**Host:** Rabbit

**Antibody Type:** Polyclonal

**Certification:** 1:50,000 dilution of SPA-758 was sufficient for detection of Hsp70 in 15µg of RTG-2 heat shocked cell lysate (product# LYC-TG101) by ECL immunoblot analysis using Stressgen's Goat anti-Rabbit IgG-HRP (product# SAB-300) as the secondary antibody.

**Note:** Stressgen makes every effort to provide a consistent source of high quality polyclonal antisera. However due to variations inherent in this technology, investigators are urged to purchase sufficient quantities of a specific lot number if an identical antisera is required throughout a study

**STORAGE & SHIPPING:** Store frozen product at or below -20°C. Thawed product may be stored for 2-4 weeks at 4°C. For optimal storage, aliquot to smaller portions and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles. For maximum product recovery, after thawing, centrifuge the product vial before removing cap. Shipped on gel packs.



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