



Polyclonal Anti- *HSP70s* (Sepharose Bead Conjugate)

Catalogue No. PA1214-S

Lot No. 09C01

Ig type: rabbit IgG

Size: 100µg/vial

Specificity

Human. No cross reactivity with other proteins.

Recommended application

(Immunoprecipitation(IP))

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminal of human HSP70s, identical to the related rat and mouse sequence.

Purification

Immunogen affinity purified.

Formulation

50% slurry in PBS pH 7.2 with 0.01mg NaN₃a₃ preservative.

Storage

Store at 4°C for frequent use.

Description:

This Antagene antibody is immobilized via covalent binding of primary amino groups to N-hydroxysuccinimide (NHS)-activated sepharose beads. It is useful for immunoprecipitation assays

BACKGROUND

The 70 kilodalton heat shock proteins (Hsp70s) are a family of ubiquitously expressed heat shock proteins. The Hsp70s are an important part of the cell's machinery for protein folding, and help to protect cells from stress.^{1,2} All of the Hsp70 proteins have three major functional domains: An N-terminal ATPase domain binds ATP (Adenosine triphosphate) and hydrolyzes it to ADP (Adenosine diphosphate); A substrate binding domain contains a groove with an affinity for neutral, hydrophobic amino acid residues; A C-terminal domain rich in alpha helical structure acts as a 'lid' for the substrate binding domain. By binding tightly to partially-synthesized peptide sequences (incomplete proteins), Hsp70 prevents them from aggregating and being rendered nonfunctional. And it also can act to protect cells from thermal or oxidative stress. Finally, Hsp70 seems to be able to participate in disposal of damaged or defective proteins. Interaction with CHIP (Carboxyl-terminus of *Hsp70* Interacting Protein)—an E3 ubiquitin ligase—allows Hsp70 to pass proteins to the cell's ubiquitination and proteolysis pathways.³

REFERENCE

1. Tavaría M, Gabriele T, Kola I, Anderson RL (April 1996). "A hitchhiker's guide to the human Hsp70 family". *Cell Stress Chaperones* 1 (1): 23–8.
2. Morano KA (October 2007). "New tricks for an old dog: the evolving world of Hsp70". *Ann. N. Y. Acad. Sci.* 1113: 1–14.
3. Luders, J.; Demand, J.; Hohfeld, J. (2000), *Journal of Biological Chemistry* 275 (7): 4613–461, <http://www.jbc.org/cgi/content/full/275/7/4613>, retrieved on 2009-04-07

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