

Monoclonal Antibody to Heat shock protein 70 / HSP70 - Aff - Purified

Alternate names:	HSP70-1/HSP70-2, HSP70.1, HSPA1, HSPA1A, HSPA1B, Heat shock 70 kDa protein 1A/1B
Catalog No.:	AM03139PU-L
Quantity:	0.2 mg
Concentration:	1.0 mg/ml
Background:	<p>Hsp70 genes encode abundant heat-inducible 70-kDa hsps (hsp70s). In most eukaryotes hsp70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 50% identity (2). The N-terminal two thirds of hsp70s are more conserved than the C-terminal third. Hsp70 binds ATP with high affinity and possesses a weak ATPase activity which can be stimulated by binding to unfolded proteins and synthetic peptides (3). When hsc70 (constitutively expressed) present in mammalian cells was truncated, ATP binding activity was found to reside in an N-terminal fragment of 44 kDa which lacked peptide binding capacity. Polypeptide binding ability therefore resided within the Cterminal half (4). The structure of this ATP binding domain displays multiple features of nucleotide binding proteins (5).</p> <p>All hsp70s, regardless of location, bind proteins, particularly unfolded ones. 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. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein (6). The universal ability of hsp70s to undergo cycles of binding to and release from hydrophobic stretches of partially unfolded proteins determines their role in a great variety of vital intracellular functions such as protein synthesis, protein folding and oligomerization and protein transport.</p>
Uniprot ID:	P08107
NCBI:	NP_005336.3
GeneID:	3303
Host / Isotype:	Mouse / IgG1
Clone:	C92F3A-5
Immunogen:	Human HSP70 (Ref.1).
Format:	State: Liquid purified IgG fraction Purification: Affinity Chromatography on Protein G Buffer System: PBS, pH 7.2 Preservatives: 0.09% Sodium Azide Stabilizers: 50% Glycerol

- Applications:** ELISA (Ref.10).
Western blot (See also Ref.7,8,14).
1 µg/ml was sufficient for detection of HSP70 in 20 µg of HeLa lysate by colorimetric immunoblot analysis using HRP conjugated Goat anti-Mouse IgG as the secondary antibody.
FACS (Ref.12).
Immunocytochemistry (Ref.1,11).
Immunoprecipitation (Ref.9).
Electron Microscopy (Ref.11).
Protein Inhibition.
Immunohistochemistry (Ref.11).
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
- Specificity:** This antibody Detects a ~70 kDa protein corresponding to the Molecular Mass of inducible HSP70 on SDS PAGE Immunoblots.
The mapped epitope is in the region of amino acid residues 436-503.
Does not cross-react with HSC70 (HSP73).
Species: Human, Mouse, Rat, Bovine, C. elegans, Canine, Chicken, Drosophila, Fish (carp), Guinea Pig, Hamster, Monkey, Pig, Rabbit and Sheep.
Other species not tested.
- Storage:** Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.
- Product Citations:** **Originator or purchased from resellers:**
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General Readings:

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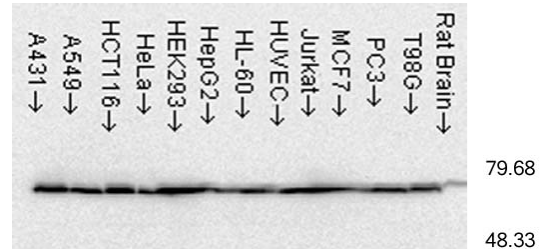
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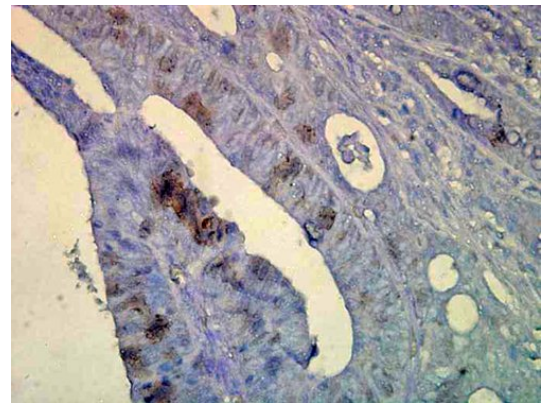
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Pictures:

Western blot analysis of Hsp70 in cell lysates from 12 human cancer cell lines at 1:1000 dilution of TA326356.



Human colon tissue stained (brown) in inflammatory cells. Shown at a 1:100,000 dilution.



Mouse melanoma cells heat shocked and probed with C92 (TA326356 was used at 1:1000 dilution in 1% BSA for a final conc. of 10ug/mL).?

