

Product datasheet for **TA326356**

HSP70-1A (HSPA1A) Mouse Monoclonal Antibody [Clone ID: C92F3A-5]

Product data:

Product Type:	Primary Antibodies
Clone Name:	C92F3A-5
Applications:	IF, IHC, WB
Recommended Dilution:	1ug/ml was sufficient for detection of Hsp70 in 20ug of Hela cell lysate
Reactivity:	Human, Mouse, Rat, Bovine, Canine, Chicken, Carp, Monkey, Pig, Rabbit, Sheep, Hamster, Guinea Pig, C. elegans, Drosophila
Host:	Mouse
Isotype:	IgG
Clonality:	Monoclonal
Immunogen:	Human Hsp70
Formulation:	PBS pH7.2, 50% glycerol, 0.09% sodium azide.
Concentration:	lot specific
Purification:	Protein G Purified
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	heat shock protein family A (Hsp70) member 1A
Database Link:	NP_005336 Entrez Gene 24472 RatEntrez Gene 193740 MouseEntrez Gene 3303 Human P0DMV8



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Background:

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. 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. 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 C-terminal half. The structure of this ATP binding domain displays multiple features of nucleotide binding proteins. 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. 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.

Synonyms:

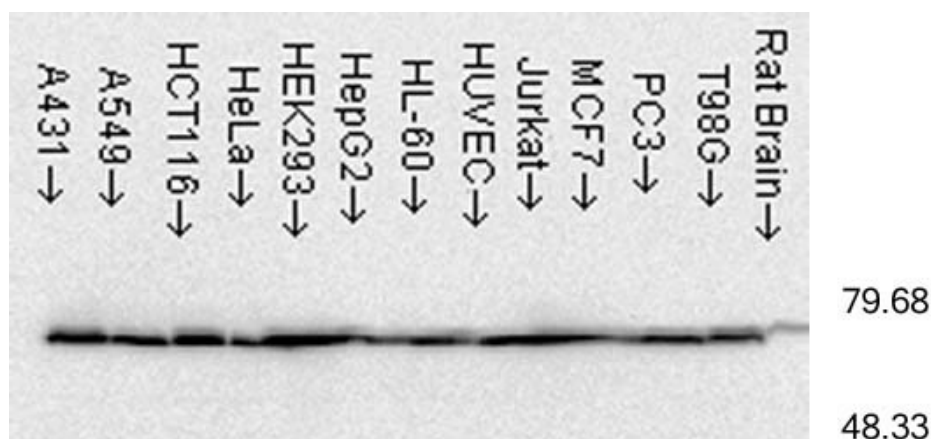
HEL-S-103; HSP70-1; HSP70-1A; HSP70.1; HSP70I; HSP72; HSPA1

Note:

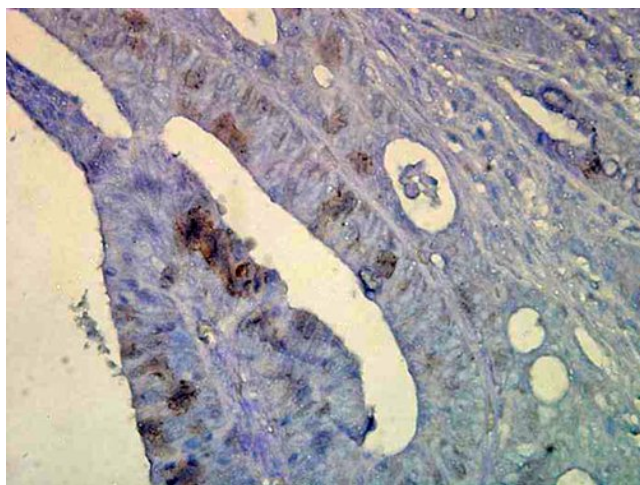
Detects a ~70kDa protein corresponding to the molecular mass of inducible Hsp70 on SDS PAGE immunoblots. The mapped epitope is in the region of amino acid residues 436-503. Does not cross-react with Hsc70 (Hsp73).

Protein Pathways:

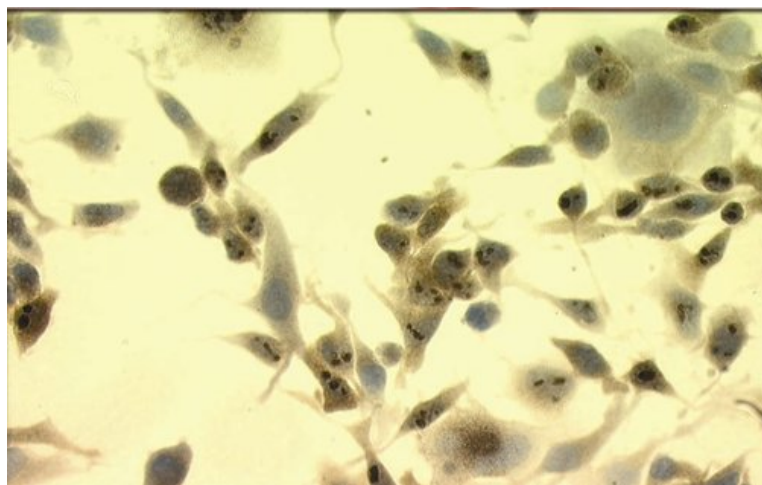
Antigen processing and presentation, Endocytosis, MAPK signaling pathway, Prion diseases, Spliceosome

Product images:

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).