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Product datasheet for TA326360

HSP70-1A (HSPA1A) Mouse Monoclonal Antibody [Clone ID: 3A3]

Product data:

Product Type:	Primary Antibodies
Clone Name:	3A3
Applications:	WB
Recommended Dilution:	ICC: 1:500, WB: 1:5000; IP: 1-2ug
Reactivity:	Human, Mouse, Rat, Amphibian, Chicken, Fish, Saccharomyces cerevisiae, Fruit fly
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Human Recombinant Hsp70 overexpressed in E.coli
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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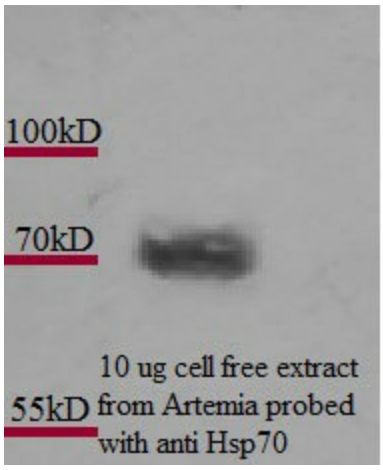
Background: Hsp70 genes encode abundant heat-inducible 70-kDa hsps (hsp70s). In most eukaryotes hsp70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 5O% 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 several members of the heat shock protein 70kDa gene family including Hsp70, Hsc70, p75 and following heat shock, Hsp72 from yeast, Drosophila, fish, mouse, avian, amphibian and human samples.

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

Product images:



10ug cell free extract from Artemia probed with anti-Hsp70