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Product datasheet for TA326361

HSP70-1A (HSPA1A) Rabbit Polyclonal Antibody [Clone ID: N/A]

Product data:

Product Type:	Primary Antibodies
Clone Name:	N/A
Applications:	IF, WB
Recommended Dilution:	WB: 1:25,000, IP: 1:100
Reactivity:	Human, Mouse, Rat, Dog, Guinea Pig, Monkey, Pig, Sheep, Beluga, Cow, Hamster, Coral, Tomato, Tobacco, Dogfish, Hagfish, Carp
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Full length human protein Hsp70
Formulation:	Rabbit antiserum
Concentration:	lot specific
Purification:	Rabbit antiserum
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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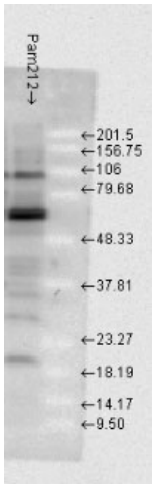
Background: Hsp70 genes encode abundant heat-inducible 70-kDa hsps (hsp70s). In most eukaryotes hsp70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well 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 ATPbinding 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

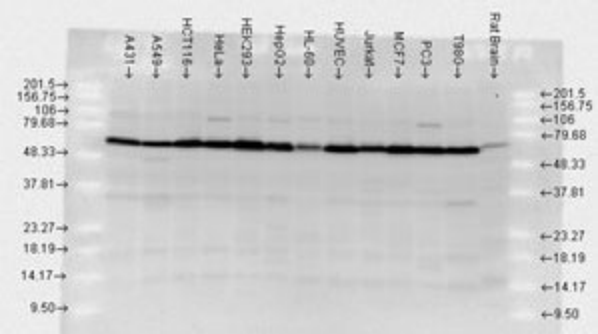
Note: Detects a ~70kDa protein corresponding to the molecular mass of inducible Hsp70 on SDS PAGE immunoblots. May cross-react with Hsc70 at lower dilutions.

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

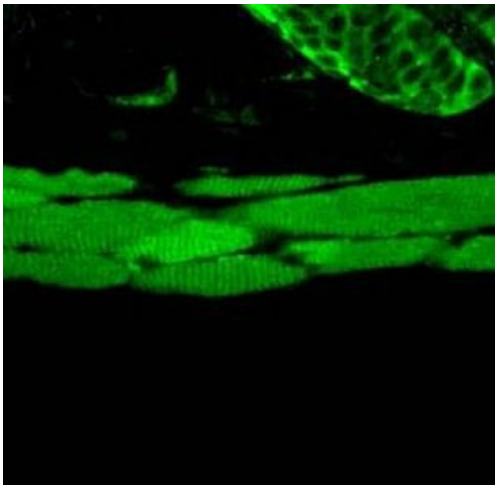
Product images:



Western blot analysis of Hsp70 in Pam212 cells using a 1:1000 dilution of the antibody



Western blot analysis of Hsp70 in multiple human and rat brain cell lysates using a 1:1000 dilution of the antibody



Hap70 visualized using the antibody