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Product datasheet for AP23246PU-N

HSP70-1A (HSPA1A) (C-term) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	Western blot 1 µg/ml. Immunohistochemistry on paraffin sections 1-2 µg/ml.
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Synthetic peptide corresponding to a sequence at the C-terminal of human HSP70s
Specificity:	This antibody detects Heat shock protein 70 / HSP70 at C-term. No cross reactivity with other proteins.
Formulation:	5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3 State: Aff - Purified State: Lyophilized Ig fraction
Reconstitution Method:	0.2ml of distilled water will yield a concentration of 500µg/ml.
Purification:	Immunogen affinity purified
Conjugation:	Unconjugated
Storage:	Store at 2 - 8 °C for up to one month or (in aliquots) at -20 °C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	heat shock protein family A (Hsp70) member 1A
Database Link:	Entrez Gene 24472 RatEntrez Gene 193740 MouseEntrez Gene 3303 Human P0DMV8

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Background: Heat-shock proteins, or stress proteins, are expressed in response to heat shock and a variety of other stress stimuli including oxidative free radicals and toxic metal ions. Sargent et al. (1989) identified a duplicated HSP70 locus in the class III region of the major histocompatibility complex on 6p21.3. A duplicated locus encoding the major heat shock-induced protein HSP70 is located in the major histocompatibility complex (MHC) class III region 92 kilobases (kb) telomeric to the C2 gene. The 70-kd mammalian heat shock proteins are structurally and functionally related to the uncoating protein that releases clathrin triskelia from coated vesicles.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. 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.

Synonyms: HSP70.1, HSP70-1/HSP70-2, HSPA1A, HSPA1B, HSPA1

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