

Datasheet for ABIN6657343
anti-HSP70 1A antibody



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3 Images

Overview

Quantity:	100 µL
Target:	HSP70 1A (HSPA1A)
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This HSP70 1A antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunoprecipitation (IP), Immunofluorescence (IF), Fluorescence Microscopy (FM)

Product Details

Purpose:	Hsp70 Antibody
Immunogen:	Hsp70 Antibody was produced from whole rabbit serum prepared by repeated immunizations raised against full length protein Hsp70.
Isotype:	IgG
Cross-Reactivity (Details):	A BLAST analysis was used to suggest cross-reactivity with Hsp70 from Human, mouse, rat, beluga, cow, dog, fish (carp), guinea pig, hamster, monkey, pig, sheep, coral, tomato, tobacco, spiny dogfish shark (<i>Squalus acanthias</i>), and Atlantic Hagfish (<i>Myxine glutinosa</i>) based on 100 % homology with the immunizing sequence.
Purification:	Anti-Hsp70 Antibody was prepared from monospecific antiserum by delipidation and defibrination.
Sterility:	Sterile filtered

Target Details

Target: HSP70 1A (HSPA1A)

Alternative Name: HSPA1A ([HSPA1A Products](#))

Background: Synonyms: Hsp70 1, Hsp70 2, Hsp70.1, Hsp72, Hsp73, HSPA1, HSPA1A, HSPA1B, Heat shock 70 kDa protein 1A/1B, Heat shock 70 kDa protein 1/2, HSP70-1/HSP70-2

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. When cells are subjected to metabolic stress (e.g., heat shock) a member of the hsp 70 family, hsp 70 (hsp72), is expressed, hsp 70 is highly related to hsc70 (>90 % sequence identity). Constitutively expressed hsc70 rapidly forms a stable complex with the highly inducible hsp70 in cells following heat shock. The interaction of hsc70 with hsp 70 is regulated by ATP. These two heat shock proteins move together in the cell experiencing stress. Furthermore, research on hsc70 has implicates it with a role in facilitating the recovery of centrosomal structure and function after heat shock.

Gene Name: HSPA1A

Gene ID: 3303

NCBI Accession: [NP_005336](#)

UniProt: [P08107](#)

Pathways: [Regulation of Leukocyte Mediated Immunity, Positive Regulation of Immune Effector Process](#)

Application Details

Application Notes: Immunoprecipitation_Dilution: 1:100
ELISA_Dilution: 1:200
Immunohistochemistry_Dilution: User Optimized
IF_Microscopy_Dilution: User Optimized

Application Details

Western_Blot_Dilution: 1:25,000

Comment: Anti-Hsp70 Antibody has been tested in WB, IHC, IF microscopy, IP and is suitable for use in ELISA. Expect a band approximately ~70kDa protein corresponding to the molecular mass of inducible Hsp70 on SDS PAGE immunoblots. May cross-react with Hsc70 at lower dilutions. Specific conditions for reactivity should be optimized by the end user.

Restrictions: For Research Use only

Handling

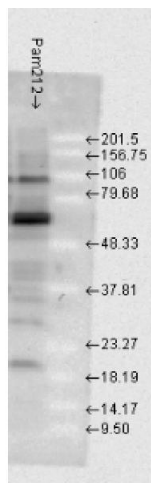
Format: Liquid

Storage: 4 °C, -20 °C

Storage Comment: Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

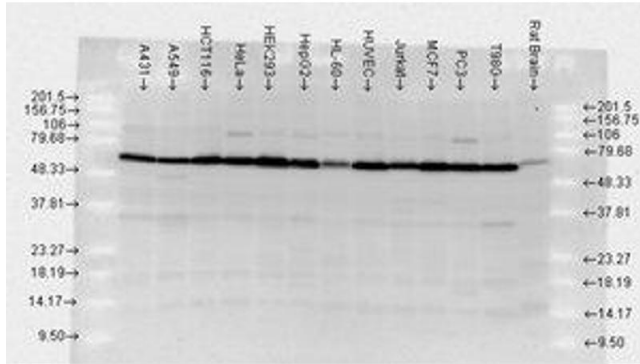
Expiry Date: 12 months

Images



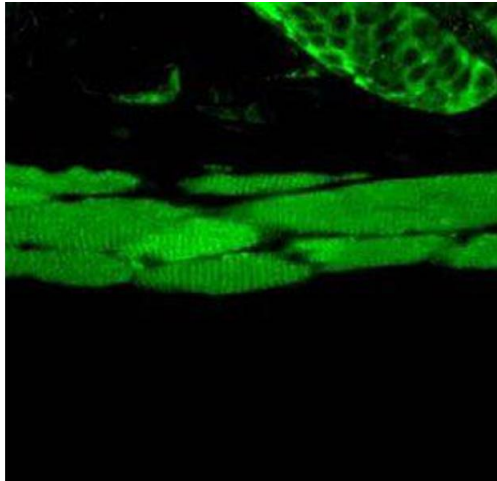
Western Blotting

Image 1. Hsp70 Western Blot. Western Blot of rabbit anti-Hsp70 antibody. Lane 1: Pam212 cell Lysate. Lane 2: molecular weight marker. Load: 35 µg per lane. Primary antibody: Hsp70 antibody at 1:1000 for overnight at 4°C. Secondary antibody: rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 70.1 kDa/~65 kDa for Hsp70. Other band(s): none.



Western Blotting

Image 2. Hsp70 Western Blot. Western Blot of rabbit anti-Hsp70 antibody. Lane 1: A431. Lane 2: A549. Lane 3: HCT116. Lane 4: HeLa. Lane 5: HEK293. Lane 6: HepG2. Lane 7: HL-60. Lane 8: HUVEC. Lane 9: Jurkat. Lane 10: MCF7. Lane 11: PC3. Lane 12: T98G. Lane 13: Rat Brain. Load: 35 µg per lane. Primary antibody: Hsp70 antibody at 1:1000 for overnight at 4°C. Secondary antibody: rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 70.1 kDa/~65 kDa for Hsp70. Other band(s): none.



Immunofluorescence

Image 3. Hsp70 Immunofluorescence. Immunofluorescence of rabbit anti-Hsp70 antibody. Tissue: backskin sections of transgenic mice. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary Antibody: Hsp70 antibody at 10µg/ml for 1h at RT. Secondary antibody: Fluorescein rabbit secondary at 1:10,000 for 45 min at RT. Localization: cytoplasmic. Staining: Hsp70 as green fluorescent signal.