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Anti-Hsc70 Antibody
Catalog # ABO11124

Specification

Anti-Hsc70 Antibody - Product Information

Application	**WB, IHC**
Primary Accession	P11142
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Heat shock cognate 71 kDa protein(HSPA8) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Hsc70 Antibody - Additional Information

Gene ID 3312

Other Names
Heat shock cognate 71 kDa protein, Heat shock 70 kDa protein 8, Lipopolysaccharide-associated protein 1, LAP-1, LPS-associated protein 1, HSPA8, HSC70, HSP73, HSPA10

Calculated MW
70898 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization
Cytoplasm. Melanosome. Nucleus, nucleolus. Cell membrane. Localized in cytoplasmic mRNP granules containing untranslated mRNAs. Translocates rapidly from the cytoplasm to the nuclei, and especially to the nucleoli, upon heat shock.

Tissue Specificity
Ubiquitous. .

Protein Name
Heat shock cognate 71 kDa protein

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human Hsc70(563-582aa

NDEDKQKILDKCNEIINWLD), different from the related mouse and rat sequences by one amino acid.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Anti-Hsc70 Antibody - Protein Information

Name HSPA8 (HGNC:5241)

Function
Molecular chaperone implicated in a wide variety of cellular processes, including protection of the proteome from stress, folding and transport of newly synthesized polypeptides, chaperone-mediated autophagy, activation of proteolysis of misfolded proteins, formation and dissociation of protein complexes, and antigen presentation. Plays a pivotal role in the protein quality control system, ensuring the correct folding of proteins, the re-folding of misfolded proteins and controlling the targeting of proteins for subsequent degradation (PubMed:21148293, PubMed:21150129, PubMed:23018488, PubMed:24732912, PubMed:27916661, PubMed:2799391, PubMed:36586411). This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones (PubMed:12526792, PubMed:21148293, PubMed:21150129, PubMed:23018488, PubMed:24732912, PubMed:27916661). The co-chaperones have been shown to not only regulate different steps of the ATPase cycle of HSP70, but they also have an individual specificity such that one co-chaperone may promote folding of a substrate while another may promote degradation (PubMed:12526792, PubMed:21148293, PubMed:21150129, PubMed:23018488, PubMed:24732912, PubMed:27916661). The affinity of HSP70 for polypeptides is regulated by its nucleotide bound state. In the ATP-bound form, it has a low affinity for substrate proteins. However, upon hydrolysis of the ATP to ADP, it undergoes a conformational change that increases its affinity for substrate proteins. HSP70 goes through repeated cycles of ATP hydrolysis and nucleotide exchange, which permits cycles of substrate binding and release. The HSP70-associated co-chaperones are of three types: J- domain co-chaperones HSP40s (stimulate ATPase hydrolysis by HSP70), the nucleotide exchange factors (NEF) such as BAG1/2/3 (facilitate conversion of HSP70 from the ADP-bound to the ATP-bound

state thereby promoting substrate release), and the TPR domain chaperones such as HOPX and STUB1 (PubMed:24121476, PubMed:24318877, PubMed:26865365, PubMed:27474739). Plays a critical role in mitochondrial import, delivers preproteins to the mitochondrial import receptor TOMM70 (PubMed:12526792). Acts as a repressor of transcriptional activation. Inhibits the transcriptional coactivator activity of CITED1 on Smad- mediated transcription. Component of the PRP19-CDC5L complex that forms an integral part of the spliceosome and is required for activating pre- mRNA splicing. May have a scaffolding role in the spliceosome assembly as it contacts all other components of the core complex. Binds bacterial lipopolysaccharide (LPS) and mediates LPS-induced inflammatory response, including TNF secretion by monocytes (PubMed:10722728, PubMed:11276205). Substrate recognition component in chaperone-mediated autophagy (CMA), a selective protein degradation process that mediates degradation of proteins with a -KFERQ motif: HSPA8/HSC70 specifically recognizes and binds cytosolic proteins bearing a -KFERQ motif and promotes their recruitment to the surface of the lysosome where they bind to lysosomal protein LAMP2 (PubMed:11559757, PubMed:2799391, PubMed:36586411). KFERQ motif- containing proteins are eventually transported into the lysosomal lumen where they are degraded (PubMed:11559757, PubMed:2799391, PubMed:36586411). In conjunction with LAMP2, facilitates MHC class II presentation of cytoplasmic antigens by guiding antigens to the lysosomal membrane for interaction with LAMP2 which then elicits MHC class II presentation of peptides to the cell membrane (PubMed:15894275). Participates in the ER-associated degradation (ERAD) quality control pathway in conjunction with J domain-containing co- chaperones and the E3 ligase STUB1 (PubMed:23990462). It is recruited to clathrin-coated vesicles through its interaction with DNAJC6 leading to activation of HSPA8/HSC70 ATPase activity and therefore uncoating of clathrin-coated vesicles (By similarity).

Cellular Location
Cytoplasm. Melanosome. Nucleus, nucleolus. Cell membrane. Lysosome membrane; Peripheral membrane protein; Cytoplasmic side. Note=Localized in cytoplasmic mRNP granules containing untranslated mRNAs (PubMed:17289661). Translocates rapidly from the cytoplasm to the nuclei, and especially to the nucleoli, upon heat shock (PubMed:1586970)

Tissue Location
Ubiquitous..

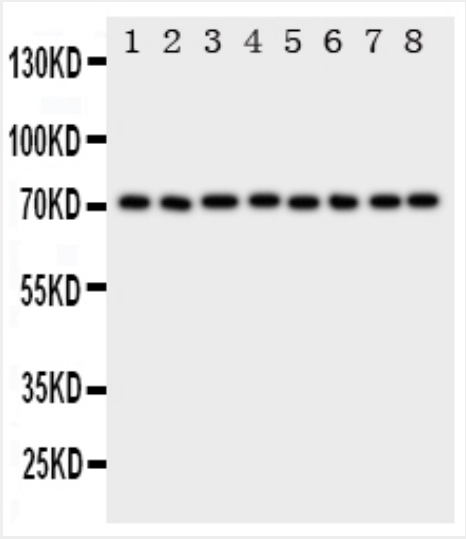
Anti-Hsc70 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

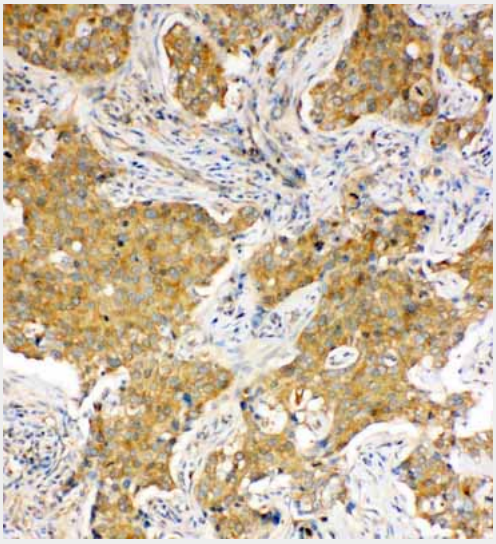
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Hsc70 Antibody - Images



Anti-Hsc70 antibody, ABO11124, Western blottingAll lanes: Anti Hsc70 (ABO11124) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Rat Testis Tissue Lysate at 50ugLane 3: Rat Ovary Tissue Lysate at 50ugLane 4: Rat Spleen Tissue Lysate at 50ugLane 5: A549 Whole Cell Lysate at 40ugLane 6: MCF-7 Whole Cell Lysate at 40ugLane 7: HELA Whole Cell Lysate at 40ugLane 8: JURKAT Whole Cell Lysate at 40ugPredicted bind size: 71KDObserved bind size: 71KD



Anti-Hsc70 antibody, ABO11124, IHC(P)IHC(P): Human Lung Cancer Tissue

Anti-Hsc70 Antibody - Background

HSPA8(heat shock 70kDa protein 8) also known as HSC70, HSC71, HSP73, HSPA10, FORMERLY, LAP1 or LPS-ASSOCIATED PROTEIN 1, is aÂ heat shock proteinÂ that in humans is encoded by theÂ HSPA8Â gene. TheÂ HSPA8Â gene contains 9 exons and spans 5 kb. The deducedÂ HSPA8Â protein has 646 amino acids and a predicted molecular mass of 70,899 Da. The HSPA8 gene is mapped on 11q24.1. HSPA8 plays an important role in cells by transiently associating with nascent polypeptides to facilitate correct folding. HSP73 also functions as an

ATPase in the disassembly of clathrin-coated vesicles during transport of membrane components through the cell. Rapid decay involves AU-rich binding protein AUF1, which complexes with heat-shock proteins HSC70 and HSP70, translation initiation factor EIF4G, and poly(A)-binding protein. In the absence of Il3, Hsc70 formed a complex with Hsp40 and Hip, and this complex, in association with Eif4g and Pabp, formed a high-stability complex with Bim mRNA that protected it from ribonucleases.