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Anti-HSPA8 / HSC70 Antibody (clone 1B5)

Rat Anti Hamster Monoclonal Antibody
Catalog # ALS17616

Specification

Anti-HSPA8 / HSC70 Antibody (clone 1B5) - Product Information

Application	**WB, IHC-P**
Primary Accession	P11142
Predicted	**Human, Mouse, Rat, Rabbit, Hamster, Monkey, Pig, Chicken, Sheep, Bovine, Guinea Pig, Dog**
Host	**Rat**
Clonality	**Monoclonal**
Isotype	**IgG2a**
Calculated MW	**70898**

Anti-HSPA8 / HSC70 Antibody (clone 1B5) - Additional Information

Gene ID 3312

Alias Symbol	**HSPA8**

Other Names
HSPA8, Heat shock 70 kDa protein 8, Heat shock 70kd protein 10, Heat shock 70kD protein 8, Heat shock cognate protein 54, HSP71, HSPA10, HSC71, HSP73, LPS-associated protein 1, Heat shock 70kDa protein 8, NIP71, HSC54, HSC70, LAP1

Reconstitution & Storage
Protein G purified

Precautions
Anti-HSPA8 / HSC70 Antibody (clone 1B5) is for research use only and not for use in diagnostic or therapeutic procedures.

Anti-HSPA8 / HSC70 Antibody (clone 1B5) - 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:2799391, PubMed:21150129, PubMed:21148293, PubMed:24732912, PubMed:<a

href="http://www.uniprot.org/citations/27916661" target="_blank">27916661, PubMed:23018488, PubMed:36586411). This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones (PubMed:21150129, PubMed:21148293, PubMed:24732912, PubMed:27916661, PubMed:23018488, PubMed:12526792). 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:21150129, PubMed:21148293, PubMed:24732912, PubMed:27916661, PubMed:23018488, PubMed:12526792). 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:24318877, PubMed:27474739, PubMed:24121476, PubMed:26865365). 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:2799391, PubMed:11559757, PubMed:36586411). KFERQ motif- containing proteins are eventually transported into the lysosomal lumen where they are degraded (PubMed:2799391, PubMed:11559757, 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).

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-HSPA8 / HSC70 Antibody (clone 1B5) - 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-HSPA8 / HSC70 Antibody (clone 1B5) - Images