

Product datasheet for TA384467

Hsc70 (HSPA8) Rabbit Monoclonal Antibody [Clone ID: R07-1B7]

Product data:

Product Type:	Primary Antibodies
Clone Name:	R07-1B7
Applications:	IHC, IP, WB
Recommended Dilution:	WB: 1/1000 IHC: 1/20 IP: 1/20
Reactivity:	Human, Mouse, Rat, Hamster
Host:	Rabbit
Isotype:	IgG
Clonality:	Monoclonal
Immunogen:	A synthetic peptide of human Hsc70
Formulation:	50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40% Glycerol, 0.01% Sodium azide and 0.05% BSA
Concentration:	lot specific
Purification:	Affinity Purified
Conjugation:	Unconjugated
Storage:	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Stability:	1 year
Predicted Protein Size:	Calculated MW: 71 kDa; Observed MW: 71 kDa
Gene Name:	heat shock protein family A (Hsp70) member 8
Database Link:	Entrez Gene 3312 Human P11142


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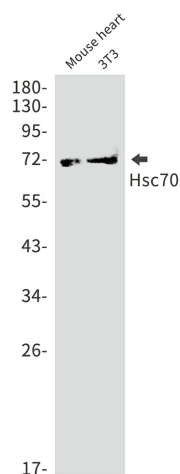
Background:

Swiss-Prot Acc.P11142. Molecular chaperone implicated in a wide variety of cellular processes, including protection of the proteome from stress, folding and transport of newly synthesized polypeptides, activation of proteolysis of misfolded proteins and the formation and dissociation of protein complexes. 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:21150129, PubMed:21148293, PubMed:24732912, PubMed:27916661, PubMed:23018488). 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). 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). 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). 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). 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).

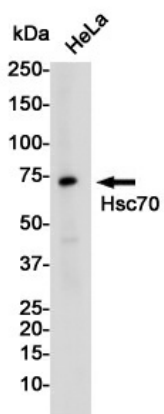
Synonyms:

HSC54; HSC70; HSC71; HSP71; HSP73; HSPA10; LAP1; MGC29929; MGC131511; NIP71

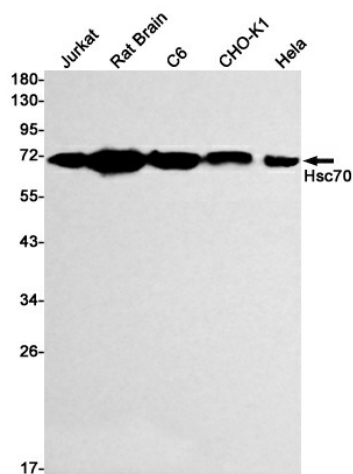
Product images:



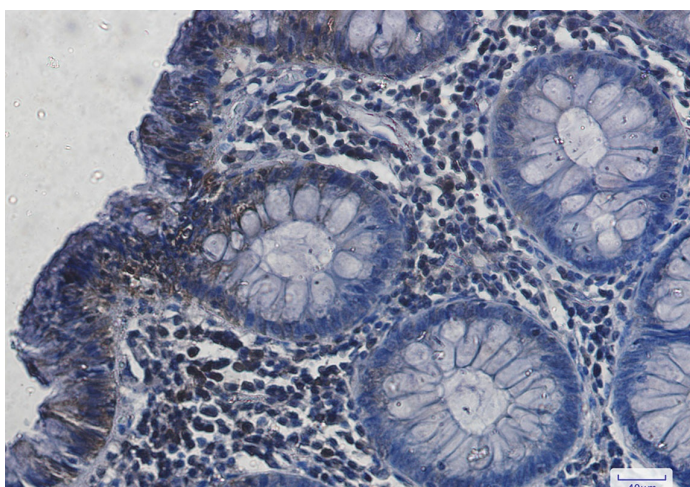
Western blot analysis of Hsc70 in mouse heart, 3T3 lysates using Hsc70 antibody.



Western blot analysis of Hsc70 in HeLa lysates using Hsc70 antibody.



Western blot analysis of Hsc70 in Jurkat, rat Brain, C6, CHO-K1, HeLa lysates using Hsc70 antibody



Immunohistochemistry analysis of paraffin-embedded Human colon cancer using Hsc70 antibody. High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.