



HSPA8 Recombinant Monoclonal Antibody

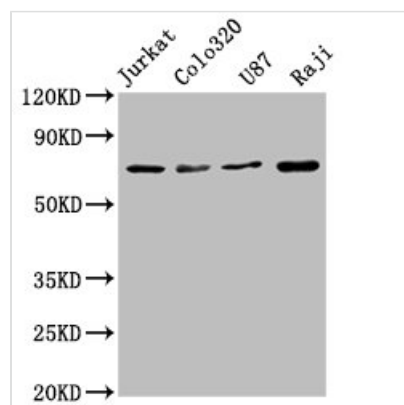
Product Code	CSB-RA010829A0HU
Abbreviation	Heat shock cognate 71 kDa protein
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P11142
Immunogen	A synthesized peptide derived from human HSPA8
Species Reactivity	Human
Tested Applications	ELISA, WB; Recommended dilution: WB:1:500-1:5000
Relevance	<p>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</p>



and the E3 ligase STUB1 (PubMed:23990462).

Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	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
Immunogen Species	Homo sapiens (Human)
Research Area	Signal Transduction
Gene Names	HSPA8
Clone No.	3G10

Image



Western Blot

Positive WB detected in: Jurkat whole cell lysate, Colo320 whole cell lysate, U87 whole cell lysate, Raji whole cell lysate

All lanes: HSPA8 antibody at 1.72μg/ml

Secondary

Goat polyclonal to rabbit IgG at 1/50000 dilution

Predicted band size: 71, 54 KDa

Observed band size: 71 KDa

Description

The production of the HSPA8 recombinant monoclonal antibody involves the application of DNA recombinant technology and in vitro genetic manipulation. To begin, an animal is immunized with a synthesized peptide derived from human HSPA8, resulting in the isolation of B cells. The positive B cells are then screened and the single clone is identified. The light and heavy chains of the HSPA8 antibody are amplified using PCR and inserted into a plasmid vector to create a recombinant vector. This vector is transfected into a host cell line to enable the expression of the antibody. The HSPA8 recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. This antibody exhibits high specificity for human HSPA8 protein and is suitable for use in ELISA and WB applications.

The HSPA8 protein, also known as HSC70, is constitutively expressed in cells and plays a critical role in maintaining protein homeostasis. It is involved in the cellular response to stress, such as heat shock, oxidative stress, and DNA damage. Under stress conditions, HSPA8 is upregulated and can help protect



cells by preventing protein aggregation and promoting protein refolding or degradation. HSPA8 can interact with other chaperones, co-chaperones, and regulatory factors to form a protein complex that regulates various cellular processes, such as protein trafficking, signaling, and cell cycle progression. Additionally, HSPA8 can interact with signaling proteins, such as BAX and p53, to regulate apoptosis and cell survival.