HSP70/HSP72 polyclonal antibody

The Hsp70 family of heat shock protiens contains multiple homologs ranging in size from 66-78 kDa, and are the eukaryotic equivalents of the bacterial DnaK. The most studied Hsp70 members include the cytosolic stress-induced Hsp70 (Hsp72), the constitutive cytosolic Hsc70 (Hsp73), and the ER-localized BiP (Grp78). Hsp70 family members contain highly conserved N-terminal ATP-ase and C-terminal protein binding domains. Binding of peptide to Hsp70 is assisted by Hsp40, and stimulates the inherent ATPase activity of Hsp70, facilitating ATP hydrolysis and enhanced peptide binding. Hsp70 nucleotide exchange and substrate binding coordinates the folding of newly synthesized proteins, the re-folding of misfolded or denatured proteins, coordinates trafficking of proteins across cellular membranes, inhibits protein aggregation, and targets the degradation of proteins via the proteasomal pathway.

This antibody is covered by our Worry-Free Guarantee.

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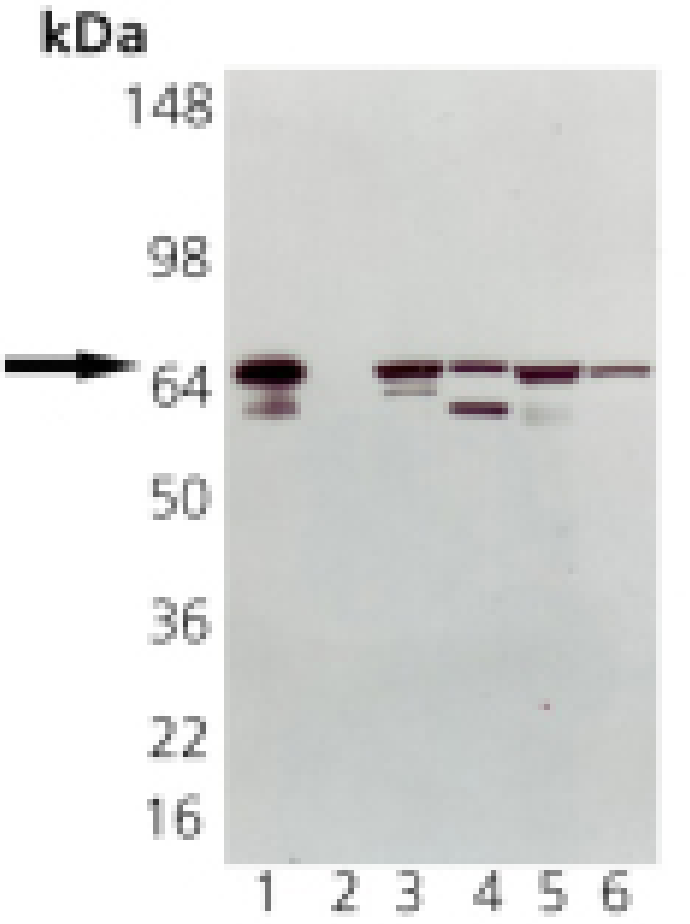
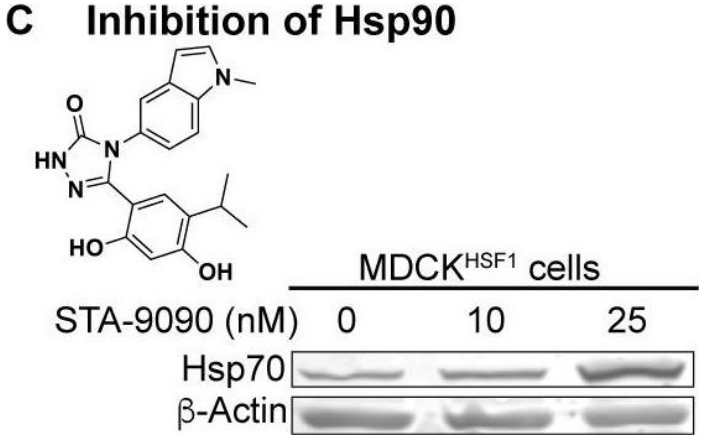
ADI-SPA-811-D	50µg
ADI-SPA-811-F	200µg

Manuals, SDS & CofA View Online »



Western blot analysis of HSP70 pAb: Lane 1: HSP70 (HSP72) Recombinant Human Protein, Lane 2: HSC70 (HSP73) Recombinant Bovine Protein (negative control), Lane 3: HeLa Cell Lysate, Heat Shocked, Lane 4: PC-12 Cell Lysate, Heat Shocked, Lane 5: Vero Cell Lysate, Heat Shocked, Lane 6: CHO-K1 Cell Lysate, Heat Shocked



Chemical biology methods to modify the host cell's proteostasis environment.(A) Destabilized domain technology for stress-independent control of HSF1 activity with trimethoprim (TMP). (B) Dosable induction of HSF1 activity by increasing concentrations of TMP shown by increases in Hsp70 transcripts up to physiologically relevant levels; arsenite is a positive control for endogenous HSF1 activation. Transcript levels normalized to vehicle-treated MDCKYFP cells; error bars represent SEM between biological triplicates. (C) 10 nM STA-9090 does not induce a compensatory heat shock response (representative blot shown; N = 3). Figure 1—figure supplement 1. Validation of chemical biology tools used to perturb proteostasis. Figure 1—figure supplement 2. Heat shock protein transcript expression during influenza infection in modulated proteostasis environments.Validation of chemical biology tools used to perturb proteostasis.(A) Resazurin assay shows that cells treated with small molecules (TMP for cHSF1 and YFP activation; STA-9090 for Hsp90 inhibition) have similar metabolic activity over the course of 72 and 48 hr, respectively, corresponding to the duration of pretreatment and mock-infection. The Y-axis represents the fold-change in fluorescence units relative to vehicle-treated cells; error bars represent SEM between biological triplicates. (B) Chaperone transcript levels in MDCKHSF1 cells (–/+10 μM TMP), relative to vehicle-treated MDCKYFP cells. A typical stress-induced heat shock response is illustrated upon treatment with 100 μM arsenite. The average of biological triplicates is plotted with error bars representing 95% confidence intervals. (C) Chaperone protein levels in HSF1-activated (+10 μM TMP) MDCKHSF1 cells, relative to vehicle-treated MDCKHSF1 cells. The average of biological triplicates is plotted with error bars representing SEM. (D) Cellular thermal shift assay demonstrates STA-9090-mediated Hsp90 stabilization. MDCKHSF1 cells were treated with 0.01% DMSO or 10 nM STA-9090 for 4 hr prior to heating. Error bars represent SEM between three biological replicates.Heat shock protein transcript

Handling & Storage

Handling	Avoid freeze/thaw cycles.
Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	Hsp70, HspA1A, Heat shock protein 70, HspA1B, Hsp72
Application	IP, WB
Application Notes	Detects a band of ~70kDa by Western blot.
Formulation	Liquid. In PBS containing 50% glycerol and 0.09% sodium azide.
GenBank ID	M11717
Gene/Protein Identifier	NP_005336.3 (RefSeq), NM_005345 (RefSeq), 3303 (Entrez GeneID), 140550 (OMIM)
Host	Rabbit
Immunogen	Synthetic peptide corresponding to a portion of human Hsp70.
Purity Detail	Protein A affinity purified.
Recommendation Dilutions/Conditions	Western Blot (1:1,000, ECL)Suggested dilutions/conditions may not be available for all applications.Optimal conditions must be determined individually for each application.
Source	Purified from rabbit serum.
Species Reactivity	Beluga, Bovine, Dog, Hamster, Human, Monkey, Mouse, Porcine, Rat, Sheep
UniProt ID	P0DMV8 (HSPA1A), P0DMV9 (HSPA1B)

Worry-free Guarantee

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