HSC70/HSP73 monoclonal antibody (1B5)

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.

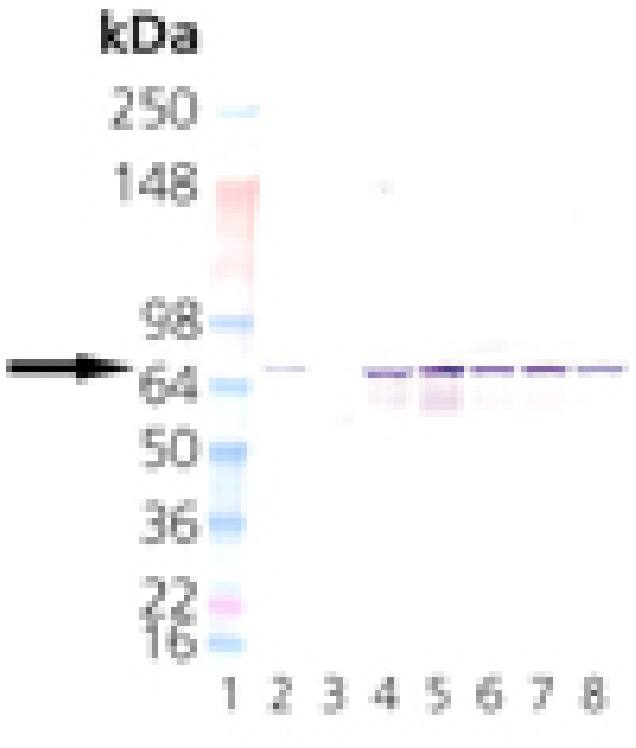
This antibody is covered by our Worry-Free Guarantee.

Citations: 114 View Online »

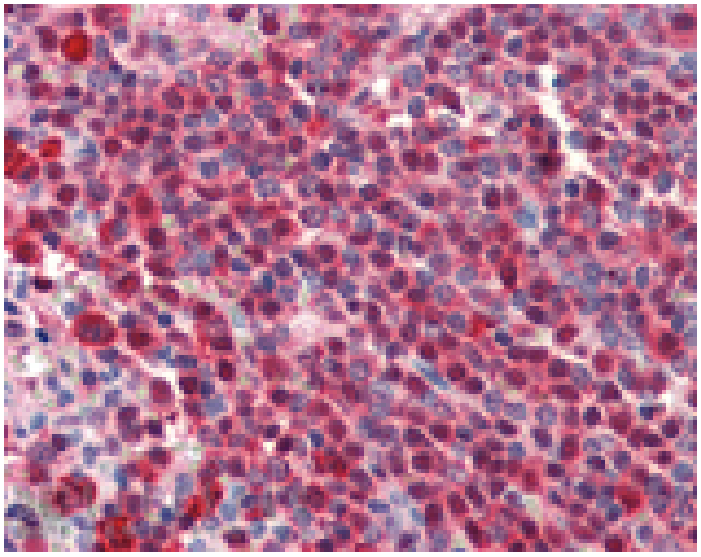
Ordering Information Order Online »

ADI-SPA-815-J	1mg
ADI-SPA-815-D	50µg
ADI-SPA-815-F	200µg

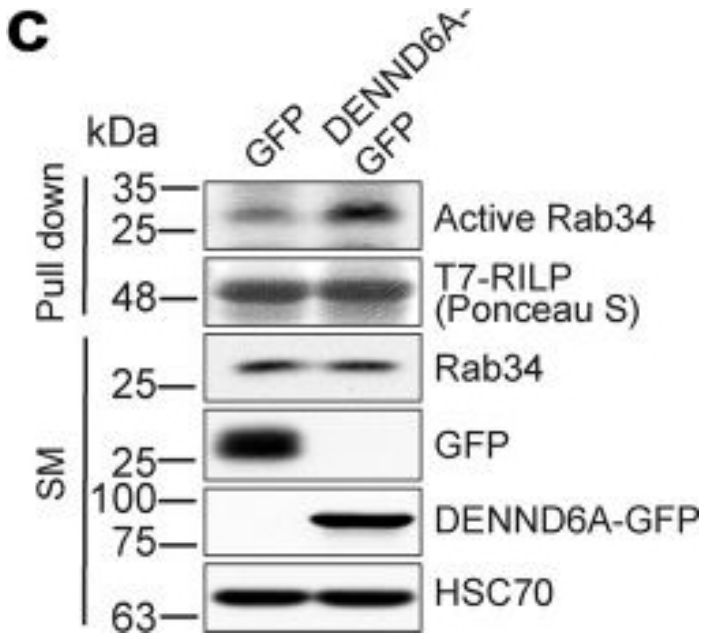
Manuals, SDS & CofA View Online »



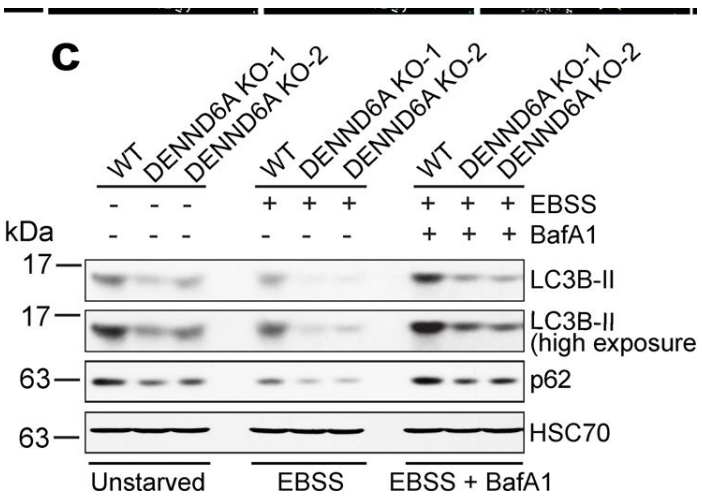
Western blot analysis of HSC70/HSP73: Lane 1: MW marker, Lane 2: HSC70/HSP73 (bovine), (recombinant) (Prod No. ADI-SPP-751) Lane 3: HSP70/HSP72 (human), (recombinant) Lane 4: 3T3, (Cell Lysate) (Prod No. ADI-LYC-3T100) Lane 5: PC-12, (Cell Lysate), (Prod No. ADI-LYC-PC100), Lane 6: CHO-K1 Cell Lysate, Lane 7: GPC-16 Cell Lysate, Lane 8: HeLa, (Cell Lysate) (Prod No. ADI-LYC-HL100).



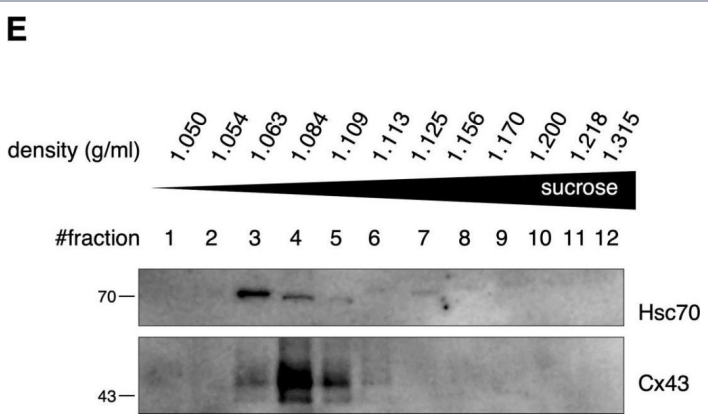
Immunohistochemistry analysis of human spleen tissue stained with HSC70/HSP73, mAb (1B5) at 10µg/ml.



DENND6A promotes juxtanuclear clustering of lysosomes via activation of Rab34.a HEK-293T cell lysates expressing DENND6A-GFP were incubated with indicated purified proteins. Bound proteins were detected by immunoblot with anti-GFP antibody. Starting material (SM). b Quantification from (a); means ± SEM; two-tailed unpaired t test (*** P ≤ 0.0005; n = 4 from three replicates). c GFP or DENND6A-GFP expressing HEK-293T cell lysates were incubated with purified T7-RILP. Bound proteins were detected by anti-Rab34, anti-GFP and anti-HSC70 antibody. d Quantification from c; means ± SEM; two-tailed unpaired t test (**P ≤ 0.0025; n = 3 from three replicates). e In vitro GEF assays using purified Rab34 with or without DENND6A as indicated. Relative incorporation of [35S]GTPγS on Rab34 is plotted over time; data represent mean ± SEM; two-tailed extra sum of F-squares test following nonlinear regression one-phase association curve fit, n = 3 from three replicates. f HeLa cells co-expressing DENND6A-GFP and mCherry-Rab34 were fixed/stained with LAMP1 antibody. Cell periphery outlined by a white dotted line. Scale bar = 10 and 3.13 μm for low and high magnification images. g HeLa cells treated with control or Rab34 siRNA were transfected with DENND6A-GFP. Post transfection, cells were fixed and stained with LAMP1 antibody. Cell periphery is outlined by a white dotted line. Scale bar = 10 μm. h Quantification of cumulative LAMP1 distribution from g; mean ± SEM; two-tailed extra sum of F-squares test following nonlinear regression and curve fitting; n = 30 cells from 3 replicates. i Immunoblot showing the Rab34 protein levels in control and Rab34 siRNA treated HeLa cells. Immunoblot probed with anti-Rab34 and anti-GAPDH antibodies. j WT and DENND6A KO HeLa cells were transfected with GFP-Rab34 or GFP-Rab34 QL. Post



Loss of DENND6A impairs nutrient dependent lysosomal positioning and autophagic flux.a Unstarved or Earle's Balanced Salt Solution (EBSS) starved HeLa cells were fixed, stained with LAMP1 antibody and imaged using confocal microscopy (Leica SP8). The cell periphery is outlined by a white dotted line. Scale bar = 10 μm. Yellow arrows indicate the presence of peripheral lysosomes. b Quantification of cumulative distribution of LAMP1 intensity in experiments performed in (a) (under starvation condition); mean ± SEM; two-tailed extra sum of F-squares test following nonlinear regression and curve fitting; n = 28, 29, 30 cells, corresponding to WT, DENND6A KO1 and DENND6A KO2, from 3 replicates. c Immunoblot showing LC3B-II protein levels under various conditions (unstarved; EBSS starved; and EBSS starved + Bafilomycin A1 (BafA1)) Immunoblot probed with anti-LC3B-II, anti-p62 and anti-HSC70 antibodies. d Quantification of experiment in (c); means ± SEM; two-way ANOVA (**P ≤ 0.0025; ***P ≤ 0.0005; ****P ≤ 0.0001; n = 3 from three replicates). e HeLa WT and DENND6A KOs cells from c were fixed and stained with LC3B-II antibody and DAPI. The cell periphery is outlined by a white dotted line. Scale bar = 25 μm. f Quantification of experiment in (e); means ± SEM; Kruskal-Wallis test ****P ≤ 0.0001; n = (32, 43, 37); (36, 34, 42); (34, 41, 34) cells, corresponding to WT, DENND6A KO1 and DENND6A KO2 in unstarved; EBSS; EBSS + BafA1, from 3 replicates).



Cx43 levels decrease in circulating extracellular vesicles (EVs) from STEMI patients.(A) Representative transmission electron microscopy of circulating human EVs from control (hEVCT) and STEMI patients (hEVSTEMI). (B) Representative WB of circulating EVs (30 µg total protein/lane). Heart lysates were used as control. (C) Levels of Cx43 were evaluated in hEVCT and hEVSTEMI. Individual levels, median, and interquartile range are plotted on graph (n = CT, n = 28 STEMI). (D) WB analysis of Cx43, Alix, Hsp90, and GAPDH in circulating EVs (30 µg total protein/lane). (E) Permeability of EV-Cx43 channels in circulating vesicles from human controls, assessed by sucrose-based transport-specific density shift.Source data are available for this figure.

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	Heat shock protein 70, Hsc70, Hsp73
Application	Electron microscopy, ELISA, Flow Cytometry, ICC, IF, IHC (PS), IP, WB
Application Notes	Detects a band of ~73kDa by Western blot.
Clone	1B5
Formulation	Liquid. In PBS, pH 7.2, containing 50% glycerol and 0.09% sodium azide.
GenBank ID	M34561
Host	Rat
Immunogen	Native hamster Hsc70 (Hsp73).
Isotype	IgG2a
Purity Detail	Protein G affinity purified.
Recommendation Dilutions/Conditions	Western Blot (1:1,000, colorimetric)Suggested dilutions/conditions may not be available for all applications.Optimal conditions must be determined individually for each application.
Source	Purified from ascites.
Species Reactivity	Bovine, Chicken, Dog, Guinea pig, Hamster, Human, Monkey, Mouse, Porcine, Rabbit, Rat, Sheep, Turtle

Technical Info / Product Notes

Cited samples:

For an overview on cited samples please click here.

UniProt ID

P19378

Worry-free Guarantee

This antibody is covered by our Worry-Free Guarantee .

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