HSP27 monoclonal antibody (G3.1)

Hsp27 is one of the most common members of the highly conserved and ubiquitously expressed family of small heat shock proteins (sHsp), which also includes alphaB-crystallin. It is characterized by a conserved C-terminal alpha-crystallin domain consisting of two anti-parallel beta-sheets that promote oligomer formation required for its primary chaperone function as inhibitor of irreversible protein aggregation. Hsp27 oligomerization is modulated by post-translational phosphorylation of Hsp27 at three serine residues, Ser15, Ser78, and Ser82, by a variety of protein kinases including MAPKAPK-3, PKAc-alpha, p70 S6K, PKD I, and PKC-delta. Hsp27 has been shown to inhibit actin polymerization by binding of unphosphorylated Hsp27 monomers to actin intermediate filaments. Anti-apoptotic functions of Hsp27 have also been identified through interactions with DAXX7, activation of Akt, and inhibition of apoptosome formation. Evidence suggests altered expression of Hsp27 is implicated in the pathogenesis of breast, ovarian, and prostate cancer.

This antibody is covered by our Worry-Free Guarantee.

Citations: 51 View Online »

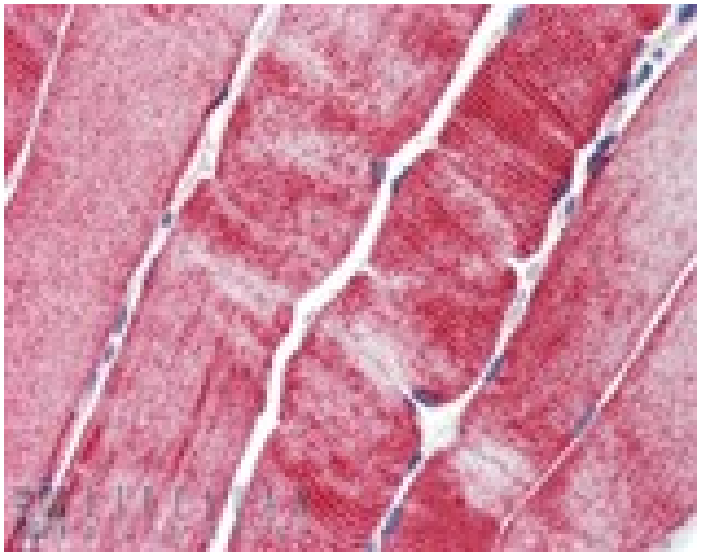
Ordering Information

Order Online »

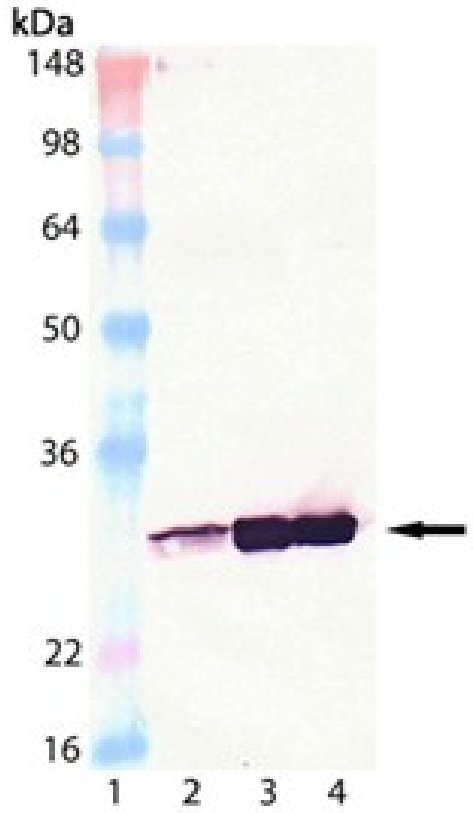
ADI-SPA-800-D	50µg
ADI-SPA-800-F	200µg

Manuals, SDS & CofA

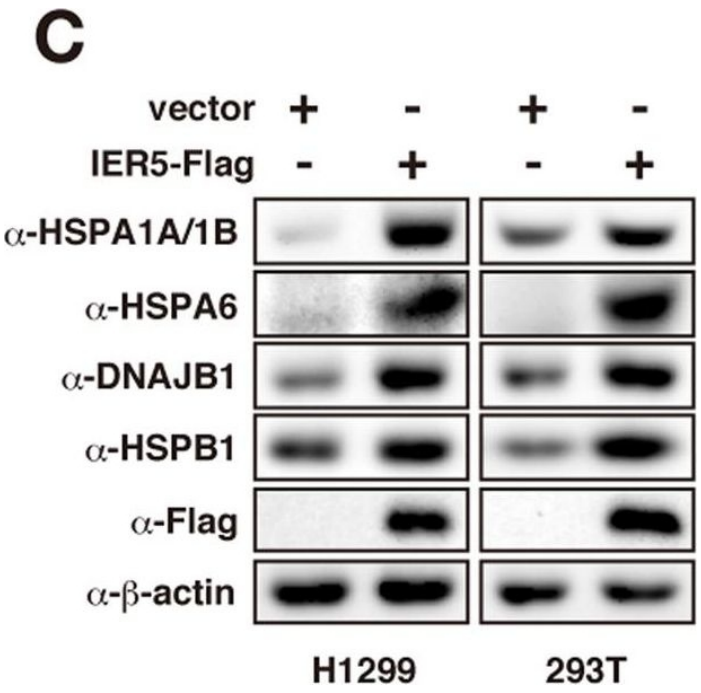
View Online »



Immunohistochemistry analysis of human skeletal muscle tissue stained with HSP27, mAb (G3.1) at 10µg/ml.

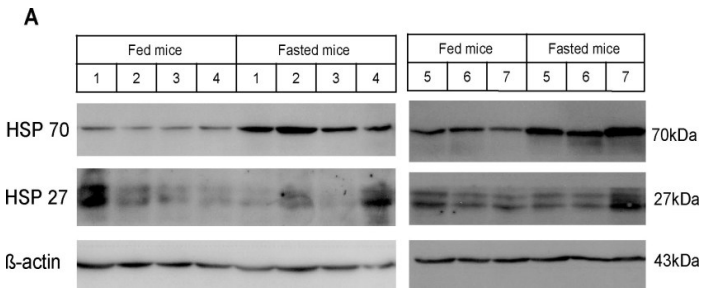


Western blot analysis of HSP27, mAb (G3.1) (Prod. No. ADI-SPA-800). Lane 1: MW marker; Lane 2: HeLa (heat shocked); Lane 3: Vero (heat shocked), Lane 4: HSP27 (human) (recombinant) (Prod. No. ADI-SPP-715).



HSP family genes are induced by IER5.(A) H1299 or 293T cells were transfected with control vector or an IER5 expression vector. Cells were harvested 21 hrs or 27 hrs post-transfection and microarray expression analysis was performed. The table shows the HSP family genes, among the genes induced by IER5. (B) H1299 cells were transfected with control, IER5-Flag or mutant IER5-Flag expression vectors (representative image of mut 1 is shown in Fig. S1). Cells were harvested 27 hrs post-transfection, and mRNA expressions of the HSP family genes were analyzed by Northern blotting. (C) H1299 and 293T cells were transfected with control vector or IER5-Flag expression vector, and cells were harvested 24 hrs post-transfection. Expressions of the HSP family proteins were analyzed by Western blotting. (D–F) Control or IER5-targeting siRNAs were introduced into OE33 cells. Cells were harvested 52 hrs post-transfection. Expression of IER5 (D,F) and HSPA1A (E,F) were analyzed by quantitative RT-PCR (D,E) and Western blotting (F). (**p < 0.01). (G) The promoter regions of HSPA1A, HSPA1B and HSPA6 were inserted into the luciferase reporter plasmid containing a minimal promoter, and assayed 24 hrs post-transfection. Experiments were run in triplicate, and data are represented as the mean-fold activation ±SD. (H) Serially deleted regions of the HSPA1A promoter were analyzed as in (G). Numbers indicate the position of the 5′ most nucleotide relative to the transcription initiation site. A heat shock element (HSE), to which HSF1 binds, was found between positions −132 and −109.

Image collected and cropped by CiteAb under a CC-BY license from the following publication: IER5 generates a novel hypo-phosphorylated active form of HSF1 and contributes to tumorigenesis. *Sci Rep* (2016)



Western blot analysis of heat shock protein expression in fasted mouse livers.(A) Heat shock protein (HSP)70, HSP27, and β-actin expression in the livers from fed mice (control) and 3-day-fasted mice (7 mice in each group) was determined by western blot. (B) The bar graph shows the average HSP70/β-actin densities plus standard error of the mean; densities were analyzed using ImageJ software. Statistical analyses were performed using the independent samples T test. *p <0.05.

Image collected and cropped by CiteAb under a CC-BY license from the following publication: Fasting enhances TRAIL-mediated liver natural killer cell activity via HSP70 upregulation. *PLoS One* (2014)

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	HspB1, Heat shock protein 27
Application	Electron microscopy, ELISA, ICC, IHC (PS), in vitro Assay, IP, WB
Application Notes	Detects a band of ~27kDa by Western blot.
Clone	G3.1
Formulation	Liquid. In PBS, pH 7.2, containing 50% glycerol and 0.09% sodium azide.
GenBank ID	L39370
Host	Mouse
Immunogen	Native human Hsp27.
Isotype	IgG1
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 mouse ascites.
Species Reactivity	Bovine, Fish, Human, Monkey, Mouse, Rat

UniProt ID P04792

Worry-free Guarantee **This antibody is covered by our Worry-Free Guarantee .**

Last modified: May 29, 2024

ENZO LIFE SCIENCES, INC.
Phone: 800.942.0430
info-usa@enzolifesciences.com

European Sales Office
ENZO LIFE SCIENCES (ELS) AG
Phone: +41 61 926 8989
info-eu@enzolifesciences.com

Belgium, The Netherlands & Luxembourg
Phone: +32 3 466 0420
info-be@enzolifesciences.com

France
Phone: +33 472 440 655
info-fr@enzolifesciences.com

Germany
Phone: +49 7621 5500 526
info-de@enzolifesciences.com

UK & Ireland
Phone (UK customers): 0845 601 1488
Phone: +44 1392 825900
info-uk@enzolifesciences.com

For local distributors and detailed product information visit us online: enzo.com All product names, logos, and brands are the property of their respective owners.