abcam

ab268073

Anti-Hsp27 antibody [CPTC-HSPB1-2]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.05% Sodium azide Constituents: PBS, 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human HSPB1. Database link P04792
Clone number	CPTC-HSPB1-2
Purification technique	Affinity purification Protein A/G
Light chain type	kappa
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from Bioreactor concentrate

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1-2 µg for 10^6 Cells

Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Protein Array

Tested

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information HSPB1

Function	Small heat shock protein which functions as a molecular chaperone probably maintaining denatured proteins in a folding-competent state (PubMed:10383393, PubMed:20178975). Plays a role in stress resistance and actin organization (PubMed:19166925). Through its molecular chaperone activity may regulate numerous biological processes including the phosphorylation and the axonal transport of neurofilament proteins (PubMed:23728742).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Hsp27 also known as HSPB1 is a small heat shock protein with a molecular weight of approximately 27 kilodaltons. This protein is expressed in various tissues including muscle heart and brain. It functions as a molecular chaperone that stabilizes unfolded proteins preventing their aggregation. Hsp27 undergoes phosphorylation at specific residues which modulates its chaperone activity and interaction with other proteins.
Biological function summary	Hsp27 plays a critical role in cellular stress response by regulating actin cytoskeleton dynamics and inhibiting apoptosis. It forms part of a complex that includes other proteins such as alphaB-crystallin. This complex facilitates the reorganization of proteins under stress conditions enhancing cell survival during oxidative stress or thermal shock. Hsp27 also modulates inflammatory responses and has been shown to affect cell migration.
Pathways	Hsp27 integrates into the apoptosis and inflammation pathways. It interacts with apoptotic machinery such as caspase proteins to protect cells by hindering apoptosome formation. Additionally Hsp27 can engage with pathways involving the nuclear factor-kappa B (NF-kB) impacting inflammatory signaling. CPTC (carboxyl-pyrene-trioctylamine) can modulate these pathways by altering Hsp27 function and interactions.
Associated diseases and disorders	Hsp27 has connections to neurodegenerative diseases and cancer. In neurodegenerative conditions such as Alzheimer's disease its chaperone activity is thought to protect neurons from misfolded protein aggregates. In cancer Hsp27 supports tumor cell survival and resistance to chemotherapy by interacting with proteins like Akt and p53. These interactions highlight the complex role of Hsp27 in modulating cellular responses in various pathological states.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

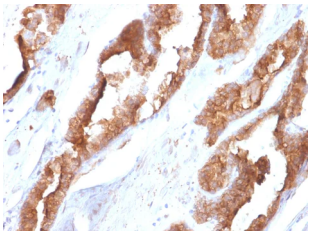
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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5 product images

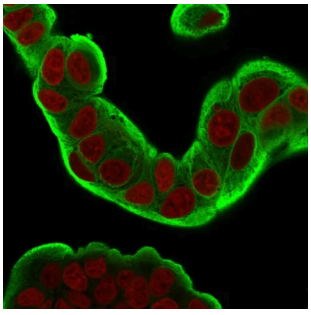


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp27 antibody [CPTC-HSPB1-2] (ab268073)

Hsp27 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Hsp27 antibody

Formalin-fixed, paraffin-embedded human Prostate tissue stained for Hsp27 using ab268073 at 2 µg/ml in immunohistochemical analysis

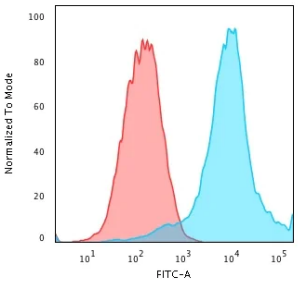
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Immunocytochemistry/ Immunofluorescence - Anti-Hsp27 antibody [CPTC-HSPB1-2] (ab268073)

Hsp27 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Hsp27 antibody

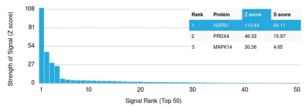
Immunofluorescence staining of PFA-fixed MCF-7 cells labeling Hsp27 with ab268073 at 2 µg/ml followed by Goat anti-Mouse IgG-CF488 (Green). The nuclear counterstain is Reddot (Red)



Flow Cytometry - Anti-Hsp27 antibody [CPTC-HSPB1-2] (ab268073)

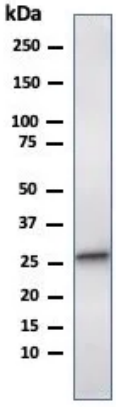
Hsp27 Flow Cytometry staining using mouse Anti-Hsp27 antibody

Flow Cytometric analysis of PFA-fixed MCF-7 cells labelling HSp27 using ab268073 followed by Goat anti- Mouse- IgG-CF488 (Blue); Isotype Control (Red).



Protein Array - Anti-Hsp27 antibody [CPTC-HSPB1-2] (ab268073)

Protein Array containing more than 19,000 full-length human proteins using ab268073. Z- and S-Score: The Z-score represents the strength of a signal that a monoclonal antibody (MAb) (in combination with a fluorescently-tagged anti-IgG secondary antibody) produces when binding to a particular protein on the HuProtTM array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If targets on HuProtTM are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-score. S-score therefore represents the relative target specificity of a MAb to its intended target. A MAb is considered to be specific to its intended target, if the MAb has an S-score of at least 2.5. For example, if a MAb binds to protein X with a Z-score of 43 and to protein Y with a Z-score of 14, then the S-score for the binding of that MAb to protein X is equal to 29.



Western blot - Anti-Hsp27 antibody [CPTC-HSPB1-2] (ab268073)

All lanes:
Western blot - Anti-Hsp27 antibody [CPTC-HSPB1-2] (ab268073) at 2 µg/mL

All lanes:
Human Liver tissue lysate

Predicted band size: 23 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.