abcam

ab114067

Anti-Hsp27 antibody [5D7]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human HSPB1. The exact immunogen used to generate this antibody is proprietary information. Database link P04792
Clone number	5D7
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Species	Rat
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

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

ICC/IF

Tested

Species	Human

Dilution info	1/200 - 1/1000
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
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 conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

This product was changed from ascites to supernatant. Lot no's high than GR146269-8 are from Tissue Culture Supernatant

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

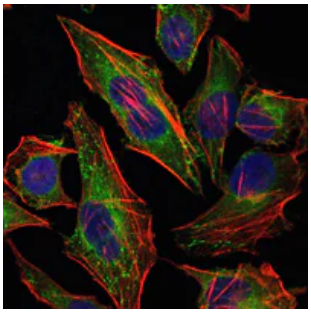
We do not recommend this combination. It is not covered by our product promise.

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.

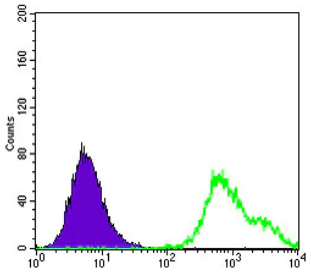
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-Hsp27 antibody [5D7] (ab114067)

Hsp27 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Hsp27 antibody

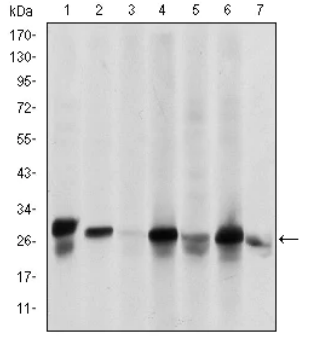
Immunofluorescence analysis of Hela cells using ab114067 at 1/200 dilution (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



Flow Cytometry - Anti-Hsp27 antibody [5D7] (ab114067)

Hsp27 Flow Cytometry staining using mouse Anti-Hsp27 antibody

Flow cytometric analysis of HepG2 cells using ab114067 at 1/200 dilution (green) and negative control (purple).



Western blot - Anti-Hsp27 antibody [5D7] (ab114067)

All lanes:
Western blot - Anti-Hsp27 antibody [5D7] (ab114067) at 1/500 dilution

Lane 1:
Hela cell lysate

Lane 2:
A549 cell lysate

Lane 3:
Jurkat cell lysate

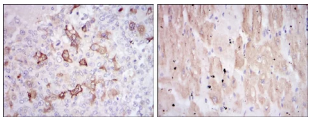
Lane 4:
A431 cell lysate

Lane 5:
HEK293 cell lysate

Lane 6:
HepG2 cell lysate

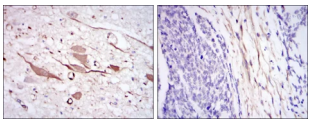
Lane 7:
PC-12 cell lysate

Predicted band size: 23 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp27 antibody [5D7] (ab114067)

Immunohistochemical analysis of paraffin embedded breast cancer tissues (left) and cardiac muscle tissues (right) using ab114067 at 1/200 dilution with DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp27 antibody [5D7] (ab114067)

Immunohistochemical analysis of paraffin embedded brain tissues (left) and esophageal cancer tissues (right) using ab114067 at 1/200 dilution with DAB staining.

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