abcam

ab250720

Anti-Hsp20 antibody [EPR14458] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR14458
Purification technique	Affinity purification Protein A
Concentration	0.995 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information HSPB6

Function	Small heat shock protein which functions as a molecular chaperone probably maintaining denatured proteins in a folding-competent state. Seems to have versatile functions in various biological processes. Plays a role in regulating muscle function such as smooth muscle vasorelaxation and cardiac myocyte contractility. May regulate myocardial angiogenesis implicating KDR. Overexpression mediates cardioprotection and angiogenesis after induced damage. Stabilizes monomeric YWHAZ thereby supporting YWHAZ chaperone-like activity.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab250720 is the carrier-free version of ab184161.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Hsp20 also known as Heat Shock Protein 20 or HspB6 is a small heat shock protein with a molecular weight of approximately 20 kDa. It functions by binding to partially unfolded proteins preventing them from aggregating and assisting in their proper folding. Hsp20 achieves this through its chaperone activity similar to other small heat shock proteins. This protein is expressed ubiquitously with high levels found in cardiac and skeletal muscles as well as in the brain and placenta.
Biological function summary	The small heat shock protein family which includes Hsp20 plays a critical role in maintaining cellular proteostasis under stress conditions. Hsp20 does not typically form large complexes though it may oligomerize under certain conditions to exert its protective functions. It interacts with cellular structures and proteins to maintain cell integrity and function. Hsp20 can modulate actin filament dynamics influencing cellular motility and smooth muscle relaxation.
Pathways	The Hsp20 protein is actively involved in several key regulatory pathways. It plays a role in the stress response pathway and is engaged in the cardiomyocyte signaling network. Hsp20 interacts closely with proteins such as Akt and PKA which are

	involved in the signaling cascades that govern cell survival and response to stress. Phosphorylation of Hsp20 by PKA contributes to its protective functions especially in cardiac tissues.
Associated diseases and disorders	Alterations in Hsp20 expression or function can impact the development of cardiac diseases and neurodegenerative disorders. The protein is associated with cardiomyopathies where its protective role is important in managing stress in cardiac cells. Furthermore changes in Hsp20 have implications for Alzheimer's disease due to its interactions with tau protein. Enhanced understanding of Hsp20's mechanisms might lead to better therapeutic strategies for these diseases.

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

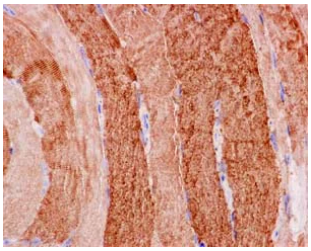
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

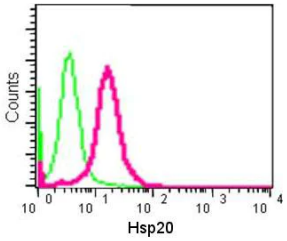


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp20 antibody [EPR14458] - BSA and Azide free (ab250720)

Hsp20 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Hsp20 antibody

This data was developed using ab184161, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling Hsp20 with ab184161 at 1/250 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with hematoxylin.

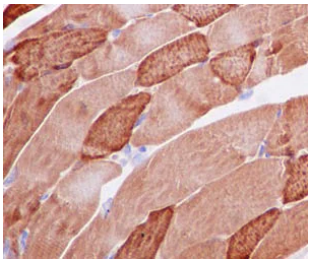
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Hsp20 antibody [EPR14458] - BSA and Azide free (ab250720)

Hsp20 Flow Cytometry (Intracellular) staining using rabbit Anti-Hsp20 antibody

This data was developed using ab184161, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa cells labeling Hsp20 with ab184161 at 1/100 dilution (pink) compared to a Rabbit monoclonal IgG isotype control (green) followed by Goat anti-rabbit IgG (FITC) secondary antibody at 1/150 dilution.

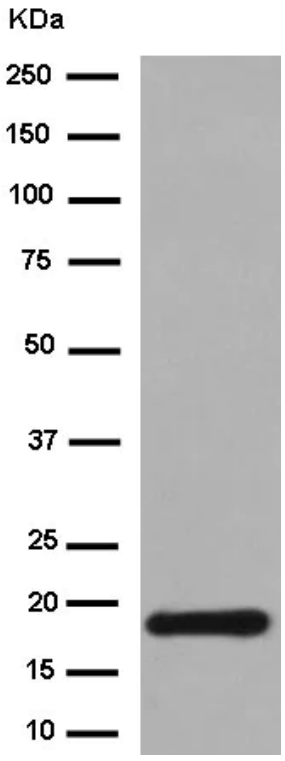


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp20 antibody [EPR14458] - BSA and Azide free (ab250720)

Hsp20 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Hsp20 antibody

This data was developed using ab184161, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue labeling Hsp20 with ab184161 at 1/250 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with hematoxylin.

Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Western blot - Anti-Hsp20 antibody [EPR14458] - BSA and Azide free (ab250720)

This data was developed using ab184161, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Hsp20 antibody [EPR14458] (ab184161) at 1/50000 dilution

All lanes:
Human skeletal muscle tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 17 kDa

Observed band size: 17 kDa

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