abcam

ab281561

Anti-Alpha B Crystallin antibody [EPR24521-60]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24521-60
Purification technique	Affinity purification Protein A
Specificity	We do not guarantee Flow Cyt (Intra) for Human and Rat.
Concentration	0.513 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Expected

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

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/3000
Notes	-

Species	Rat
Dilution info	1/3000
Notes	-

Species	Human
Dilution info	1/3000
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Target data

See full target information CRYAB

Function	May contribute to the transparency and refractive index of the lens. Has chaperone-like activity, preventing aggregation of various proteins under a wide range of stress conditions. In lens epithelial cells, stabilizes the ATP6V1A protein, preventing its degradation by the proteasome (By similarity).

Storage

Shipped at conditions	Conditional Ambient
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

Notes

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.

Supplementary info

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

Activity summary	Alpha B Crystallin also known as CRYAB or alpha B crystallin protein is a small heat shock protein with a molecular mass of approximately 20 kDa. It is expressed in various tissues including the eye lens heart skeletal muscles and the brain. Alpha B Crystallin functions mechanically as a chaperone helping to prevent the aggregation of unfolded proteins by stabilizing them. This protein plays an important role in maintaining proper cellular function especially under stress conditions.
Biological function summary	Alpha B crystallin performs as part of the larger small heat shock protein family which contributes to the cellular defense system. It acts primarily as a chaperone binding to denatured proteins to protect the cells from damage during environmental stresses such as heat and oxidative stress. Alpha B crystallin often

	forms oligomeric complexes which increases its protective properties. This protein exhibits significant anti-apoptotic functions by interacting with various apoptosis-regulating factors contributing to cellular survival.
Pathways	Alpha B crystallin integrates into the cellular stress response and apoptosis pathways. It involves the PI3K/Akt signaling pathway known for regulating cell survival and preventing programmed cell death. Alpha B crystallin also interacts with other proteins such as Bcl-2 further enhancing its role in anti-apoptotic activities. Its contribution to these pathways highlights its protective function during cellular stress situations.
Associated diseases and disorders	Alpha B crystallin is associated with cataracts and dilated cardiomyopathy. It plays a significant role in maintaining lens transparency and mutations or dysfunctions in alpha B crystallin can lead to cataract development. Similarly in cardiac tissue abnormal alpha B crystallin expression links to dilated cardiomyopathy. The protein is also known to associate with other structural proteins like desmin where disruptions may contribute to muscle-related 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

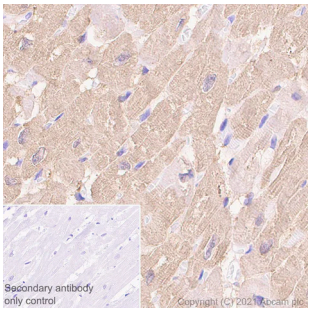
We do not recommend this combination. It is not covered by our product promise.

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.

11 product images

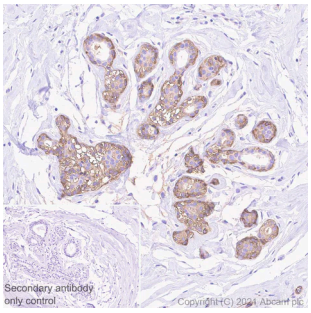


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

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

Immunohistochemical analysis of paraffin-embedded Human cardiac muscle tissue labelling Alpha B Crystallin with ab281561 at 1/3000 dilution (0.089 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human cardiac muscle. The section was incubated with ab281561 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

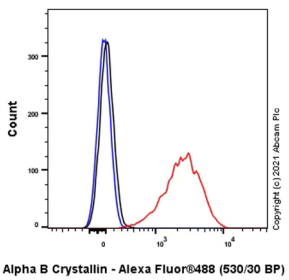


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

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

Immunohistochemical analysis of paraffin-embedded Human breast tissue labelling Alpha B Crystallin with ab281561 at 1/3000 dilution (0.089 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human breast tissues (PMID:24987308). The section was incubated with ab281561 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

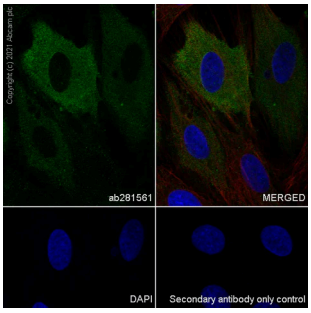
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Flow Cytometry (Intracellular) - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

Alpha B Crystallin Flow Cytometry (Intracellular) staining using rabbit Anti-Alpha B Crystallin antibody

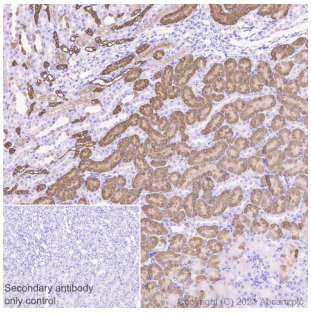
Flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized HL-1 (mouse atrial muscle cell) cells labelling Alpha B Crystallin with ab281561 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

Alpha B Crystallin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Alpha B Crystallin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HL-1 (mouse atrial muscle cell) cells labelling Alpha B Crystallin with ab281561 at 1/50 dilution (8.88 ug/ml), followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in HL-1 cells is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

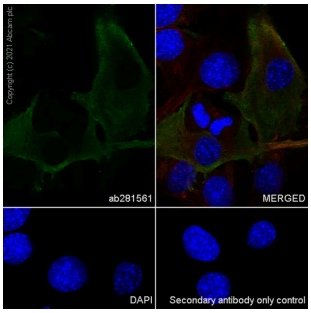


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

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

Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labelling Alpha B Crystallin with ab281561 at 1/3000 dilution (0.089 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on rat kidney (PMID:14566023). The section was incubated with ab281561 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

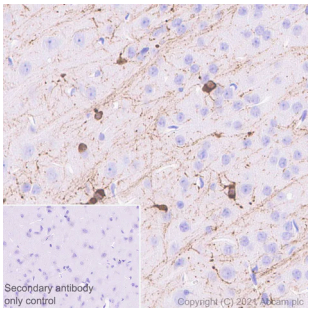
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

Alpha B Crystallin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Alpha B Crystallin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized C2C12 (mouse myoblasts myoblast) cells labelling Alpha B Crystallin with ab281561 at 1/50 dilution (8.88 ug/ml), followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in C2C12 cells is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

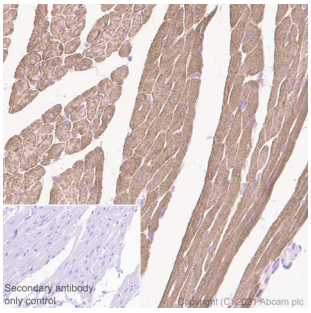


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

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

Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labelling Alpha B Crystallin with ab281561 at 1/5000 dilution (0.089 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on mouse cerebrum (PMID:1739128). The section was incubated with ab281561 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

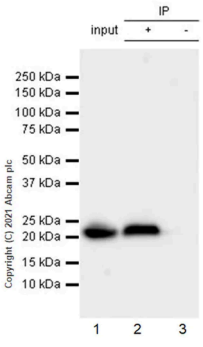


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

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

Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle tissue labelling Alpha B Crystallin with ab281561 at 1/3000 dilution (0.089 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on mouse cardiac muscles (PMID:27566162). The section was incubated with ab281561 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunoprecipitation - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

Alpha B Crystallin was immunoprecipitated from 0.35 mg Mouse heart tissue lysate with ab281561 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab281561 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: Mouse heart tissue lysate 10 ug

Lane 2: ab281561 IP in Mouse heart tissue lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab281561 in mouse heart tissue lysate

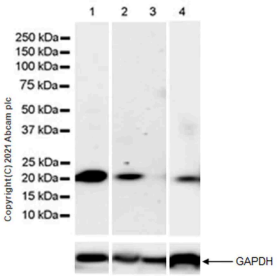
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 6 seconds.

All lanes:
Immunoprecipitation - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

Predicted band size: 20 kDa

Observed band size: 21 kDa



Western blot - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The expression profile observed is consistent with what has been described in the literature (PMID: 17661394, 15197794, 24710637).

Negative control: MCF7 (PMID:15197794, 24710637).

Exposure time: Lane 1:92 seconds; Lanes 2-3: 3 minutes; Lane 4: 3 seconds.

All lanes:
Western blot - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561) at 1/5000 dilution

Lane 1:
Human heart tissue lysate at 20 µg

Lane 2:
MDA-MB-468 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

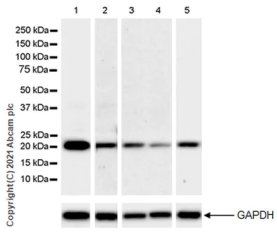
Lane 4:
Rat heart tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 20 kDa

Observed band size: 21 kDa



Western blot - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561)

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The expression profile observed is consistent with what has been described in the literature (PMID: 17661394, 15197794, 24710637).

Low expression: Mouse lung (PMID:17661394).

Exposure time: Lane 1:26 seconds; Lanes 2-4: 3 minutes; Lane 5: 26 seconds.

All lanes:
Western blot - Anti-Alpha B Crystallin antibody [EPR24521-60] (ab281561) at 1/1000 dilution

Lane 1:
Mouse heart tissue lysate at 20 µg

Lane 2:
Mouse brain tissue lysate at 20 µg

Lane 3:
Mouse lung tissue lysate at 20 µg

Lane 4:
HL-1 (mouse atrial muscle cell) whole cell lysate at 20 µg

Lane 5:
C2C12 (mouse myoblasts myoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 20 kDa

Observed band size: 21 kDa

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