abcam

ab166892

Anti-CAPZA1 + CAPZA2 antibody [EPR11210]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EPR11210
Purification technique	Affinity purification Protein A
Concentration	0.096 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat, Transfected cell lysate - Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Human

Dilution info	-
Notes	-

WB

Tested

Species	Transfected cell lysate - Human
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Human
Dilution info	-
Notes	-

Target data

See full target information F-actin-capping protein subunit alpha-1

Function	F-actin-capping proteins bind in a Ca(2+)-independent manner to the fast growing ends of actin filaments (barbed end) thereby blocking the exchange of subunits at these ends. Unlike other capping proteins (such as gelsolin and severin), these proteins do not sever actin filaments. May play a role in the formation of epithelial cell junctions (PubMed:22891260). Forms, with CAPZB, the barbed end of the fast growing ends of actin filaments in the dynactin complex and stabilizes dynactin structure. The dynactin multiprotein complex activates the molecular motor dynein for ultra-processive transport along microtubules (By similarity).

Storage

Shipped at conditions	Conditional Ambient
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	CAPZA1 also known as F-actin-capping protein subunit alpha-1 is a critical actin-binding protein with a molecular mass of approximately 33 kDa. It plays a role in the regulation of actin filament dynamics by capping the barbed ends of actin filaments effectively preventing further polymerization and depolymerization. CAPZA1 is expressed in a wide variety of tissues including skeletal muscle heart and brain indicating its importance in various cellular processes.
Biological function summary	The function of CAPZA1 influences the regulation of actin cytoskeleton organization. It is a part of the heterodimeric complex known as the F-actin-capping protein which includes beta subunit counterparts like CAPZB. This complex helps maintain the stability of actin filaments which are critical for cell motility shape and intracellular transport. CAPZA1’s role in these cellular functions highlights its importance in processes ranging from muscle contraction to neuronal growth.
Pathways	CAPZA1 contributes significantly to the actin cytoskeleton pathway partnering with proteins such as gelsolin and profilin. Its activity affects cytoskeletal rearrangements which are integral to fundamental actions like cellular signaling adhesion and migration. The protein interacts in the Wnt signaling pathway where it may influence cell proliferation and differentiation processes through its modulation of actin filament dynamics.
Associated diseases and disorders	CAPZA1 is linked to conditions like cardiac hypertrophy and certain cancers owing to its regulatory effect on actin filament dynamics. The disruptions in CAPZA1 expression can lead to aberrant cytoskeletal organization and cellular activity. Interactions with proteins such as vinculin are noted in these pathologies particularly as they relate to cell adhesion and migration in cancer metastasis. Understanding CAPZA1's role could provide insights into therapeutic targets 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.

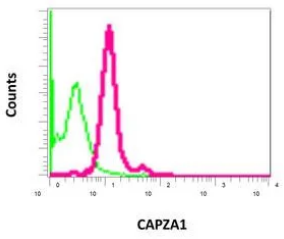
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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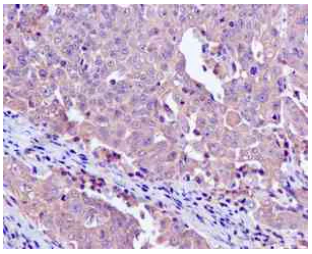
10 product images



Flow Cytometry (Intracellular) - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Flow Cytometry (Intracellular) staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

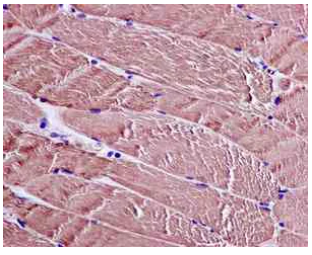
Intracellular flow cytometric analysis of permeabilized Jurkat cells using ab166892 at a dilution of 1/10 (red) compared to a rabbit IgG (negative) (green).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

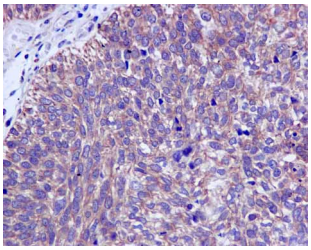
Immunohistochemical analysis of paraffin embedded Human cervical carcinoma tissue labeling CAPZA1 + CAPZA2 with ab166892 at 1/100 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

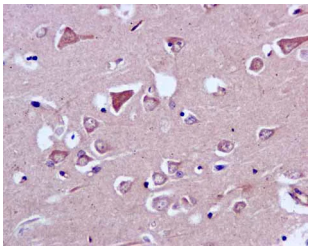
Immunohistochemical analysis of paraffin embedded Human muscle tissue labeling CAPZA1 + CAPZA2 with ab166892 at 1/100 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

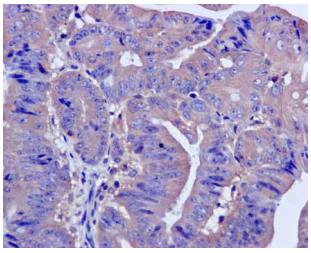
ab166892 showing +ve staining in Human urinary bladder carcinoma.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

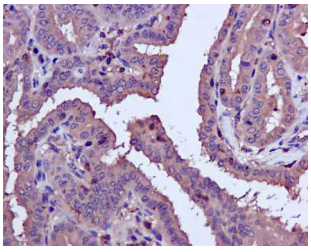
ab166892 showing +ve staining in Human normal brain.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

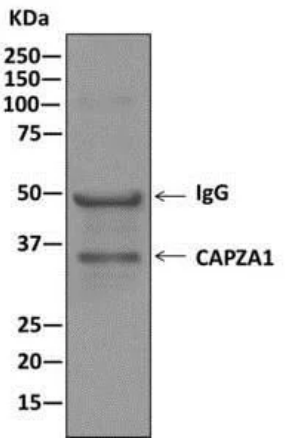
ab166892 showing +ve staining in Human colonic adenocarcinoma.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

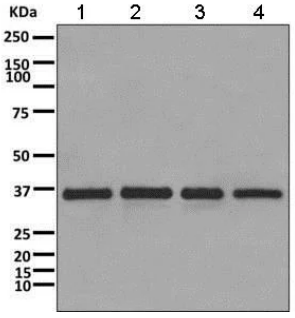
ab166892 showing +ve staining in Human thyroid gland carcinoma.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

ab166892, at 1/1000 dilution, staining CAPZA1 + CAPZA2 in HepG2 cell lysate immunoprecipitated using ab166892 at 1/10.
All lanes:
Immunoprecipitation - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

Predicted band size: 33 kDa



Western blot - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Western blot staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

All lanes:
Western blot - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

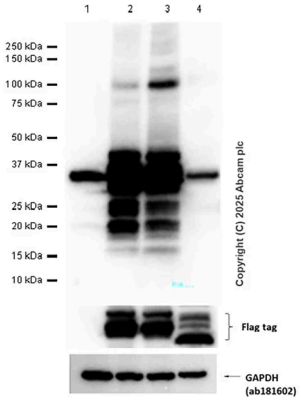
Lane 3:
293T cell lysate at 10 µg

Lane 4:
HepG2 cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 33 kDa



Western blot - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892)

CAPZA1 + CAPZA2 Western blot staining using rabbit Anti-CAPZA1 + CAPZA2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
CAZA1 and CAZA2 have numerous ubiquitination and SUMOylation sites, whereas CAZA3 does not. This could explain why the molecular weight of flag-CAZA3 is lower than that of the other two proteins.

All lanes:
Western blot - Anti-CAPZA1 + CAPZA2 antibody [EPR11210] (ab166892) at 1/1000 dilution

Lane 1:
293T cells transfected with an empty vector containing a flag tag whole cell lysate at 20 µg

Lane 2:

293T cells transfected with a full length human CAZA1 expression vector containing a flag-tag whole cell lysate at 20 µg

Lane 3:
293T cells transfected with a full length human CAZA2 expression vector containing a flag-tag whole cell lysate at 20 µg

Lane 4:
293T cells transfected with a full length human CAZA3 expression vector containing a flag-tag whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 35 kDa

Exposure time: 5s

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