abcam

ab312313

Anti-Plectin antibody [EPR26993-49] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR26993-49
Purification technique	Affinity purification Protein A
Concentration	0.97 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human, Mouse
Dilution info	-

Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PLEC

Function Interlinks intermediate filaments with microtubules and microfilaments and anchors intermediate filaments to desmosomes or hemidesmosomes. Could also bind muscle proteins such as actin to membrane complexes in muscle. May be involved not only in the filaments network, but also in the regulation of their dynamics. Structural component of muscle. Isoform 9 plays a major role in the maintenance of myofiber integrity.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

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.

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	Plectin also known as PLEC is a large protein with a molecular mass of approximately 500 kDa. It serves as a cross-linking element that plays an important role in maintaining the structural integrity of various cells. Plectin is widely expressed in tissues such as muscle skin and nervous tissue. Its mechanical function involves linking intermediate filaments to membrane complexes and other cytoskeletal structures which supports cellular architecture and stability.
Biological function summary	Plectin contributes significantly to the structural organization of cells and tissues. It is a part of the cytoskeletal complex and assists in cellular integrity by interacting with actin microfilaments microtubules and intermediate filaments. Plectin provides elasticity to cells allowing them to withstand mechanical stress. It ensures proper cellular functions and structural dynamics making it indispensable for maintaining tissue homeostasis.
Pathways	Plectin integrates into cellular signaling networks that control cytoskeletal organization and cell-matrix interactions. It plays a role in the integrin-mediated signaling pathway facilitating communication between the extracellular matrix and the cytoskeleton. Plectin interacts with proteins such as dystrophin which is involved in muscular pathways contributing to cell adhesion and motility.
Associated diseases and disorders	Mutations or defects in the plectin gene can lead to conditions like epidermolysis bullosa simplex and muscular dystrophies. These disorders illustrate the important role that plectin plays in maintaining structural cell stability. In muscular dystrophies the interaction between plectin and dystrophin gets disrupted affecting muscle fiber integrity and leading to muscle weakness or degeneration. Such associations highlight plectin's significance in pathophysiological contexts.

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

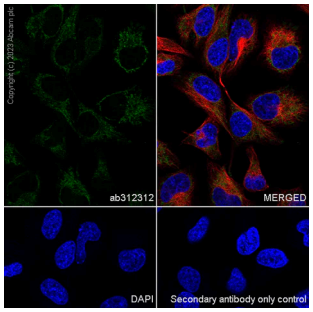
We do not recommend this combination. It is not covered by our product promise.

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.

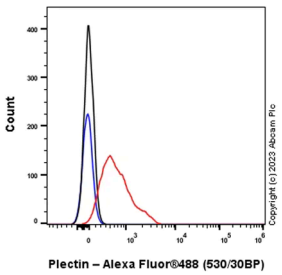
Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images



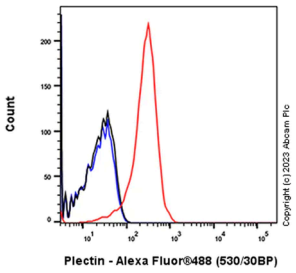
Immunocytochemistry/ Immunofluorescence - Anti-Plectin antibody [EPR26993-49] - BSA and Azide free (ab312313)

This data was developed using ab312312, the same antibody clone in a different buffer formulation. Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling Plectin with ab312312 at 1/50 (10.38 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing cytoplasmic staining in Hela cell line.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



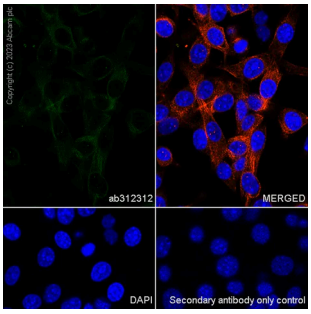
Flow Cytometry (Intracellular) - Anti-Plectin antibody [EPR26993-49] - BSA and Azide free (ab312313)

This data was developed using ab312312, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling Plectin with ab312312 at 1/50 dilution (1 ug)/Red (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, ab150081) at 1/5000 dilution was used as the secondary antibody.



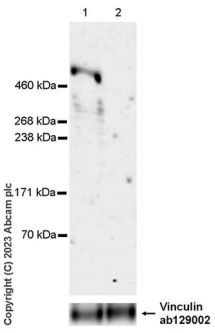
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This data was developed using ab312312, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling Plectin with ab312312 at 1/500 dilution (0.1 ug)/Red (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, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Plectin antibody [EPR26993-49] - BSA and Azide free (ab312313)

This data was developed using ab312312, the same antibody clone in a different buffer formulation. Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling Plectin with ab312312 at 1/50 (10.38 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing cytoplasmic staining in NIH/3T3 cell line.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Western blot - Anti-Plectin antibody [EPR26993-49] - BSA and Azide free (ab312313)

Plectin Western blot staining using rabbit Anti-Plectin antibody

This data was developed using ab312312, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST The bands beneath the target band (400 kDa) are likely to be degraded target fragments. In Western blot, anti- Vinculin antibody (ab129002) loading control staining at 1/10000 dilution. Exposure time: 180 seconds
All lanes:
Western blot - Anti-Plectin antibody [EPR26993-49] (ab312312) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:

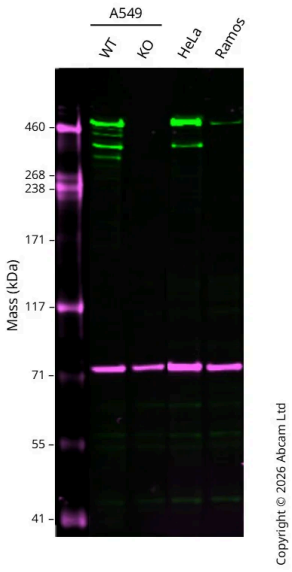
HeLa transfected with siRNA specifically targeti plectin whole cell lysate 20 at 20 µg

Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 400-500 kDa

Exposure time: 180s



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Western blot - Anti-Plectin antibody [EPR26993-49] - BSA and Azide free (ab312313)

Plectin Western blot staining using rabbit Anti-Plectin antibody

This data was developed using ab312312, the same antibody clone in a different buffer formulation.

Western blot: Anti-Plectin antibody [EPR26993-49] ab312312 staining at 1/1000 dilution, shown in green; Mouse anti-CANX ab238078 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 350-500 kDa in Wild-type A549 cell line with no signal observed at this size in PLEC knockout A549 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-Plectin antibody [EPR26993-49] (ab312312) at 1/1000 dilution

Lane 1:
Wild-type A549 cell lysates at 20 µg

Lane 2:
PLEC knockout A549 cell lysates at 20 µg

Lane 3:
HeLa cell lysates at 20 µg

Lane 4:
Ramos cell lysates at 20 µg

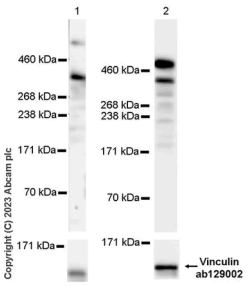
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 532 kDa

Observed band size: 350-500 kDa



Western blot - Anti-Plectin antibody [EPR26993-49] - BSA and Azide free (ab312313)

Plectin Western blot staining using rabbit Anti-Plectin antibody

This data was developed using ab312312, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST The bands beneath the target band (400 kDa) are likely to be degraded target fragments. Lysates were freshly made and used for Western blotting immediately to minimize protein degradation. In Western blot, anti-Vinculin antibody (ab129002) loading control staining at 1/10000 dilution. Exposure time: Lane1:180 seconds, lane2:15 seconds
All lanes:
Western blot - Anti-Plectin antibody [EPR26993-49] (ab312312) at 1/1000 dilution

Lane 1:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 2:
U-2 OS (human bone osteosarcoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 400-500 kDa

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