abcam

ab284865

Anti-Ataxin 3 antibody [EPR24153-2] - 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	EPR24153-2
Purification technique	Affinity purification Protein A
Concentration	1.058 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information ATXN3

Function

Deubiquitinating enzyme involved in protein homeostasis maintenance, transcription, cytoskeleton regulation, myogenesis and degradation of misfolded chaperone substrates (PubMed:12297501, PubMed:16118278, PubMed:17696782, PubMed:23625928, PubMed:28445460, PubMed:33157014). Binds long polyubiquitin chains and trims them, while it has weak or no activity against chains of 4 or less ubiquitins (PubMed:17696782). Involved in degradation of misfolded chaperone substrates via its interaction with STUB1/CHIP: recruited to monoubiquitinated STUB1/CHIP, and restricts the length of ubiquitin chain attached to STUB1/CHIP substrates and preventing further chain extension (By similarity). Interacts with key regulators of transcription and represses transcription: acts as a histone-binding protein that regulates transcription (PubMed:12297501). Acts as a negative regulator of mTORC1 signaling in response to amino acid deprivation by mediating deubiquitination of RHEB, thereby promoting RHEB inactivation by the TSC-TBC complex (PubMed:33157014). Regulates autophagy via the deubiquitination of 'Lys-402' of BECN1 leading to the stabilization of BECN1 (PubMed:28445460).

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	Ataxin 3 also known as ATXN3 is a protein that functions as a deubiquitinating enzyme. It plays an important role in protein homeostasis by editing ubiquitin chains on proteins marked for degradation. This protein is approximately 42 kDa in size and is expressed in various human tissues with higher expressions in the brain and testis. Ataxin 3 contains a polyglutamine (polyQ) tract which is responsible for its aggregation in certain pathologies.

Biological function summary	At the molecular level Ataxin 3 helps in regulating protein quality control by associating with the proteasome complex. It acts as a link between ubiquitination and protein degradation pathways. The involvement of Ataxin 3 in transcriptional regulation and cytoskeletal organization further highlights its importance in cellular health. Its deubiquitinating activity implies its participation in recycling ubiquitins which are important to maintaining ubiquitin pools within the cell.
Pathways	Ataxin 3 is embedded within the ubiquitin-proteasome system which is essential for protein degradation. It links with pathways such as the protein quality control and endocytosis pathways. Ataxin 3 interacts with proteins like parkin and Ubiquitin C-terminal hydrolase L1 (UCH-L1) both of which are important for removing damaged or misfolded proteins and in the prevention of protein accumulation. These interactions show its broad role in cell maintenance and preventing toxic accumulations.
Associated diseases and disorders	The malfunction of Ataxin 3 directly relates to Spinocerebellar Ataxia Type 3 (SCA3) also known as Machado-Joseph Disease. The elongated polyQ tract within Ataxin 3 leads to its aggregation resulting in neuronal death. This aggregation process is shared with proteins such as Ataxin 2 which also forms aggregates in certain neurological conditions indicating a pathogenic overlap with related neurodegenerative diseases. Understanding Ataxin 3's role offers insights into therapeutic targets for these conditions.

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

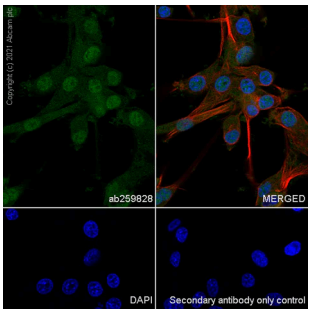
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

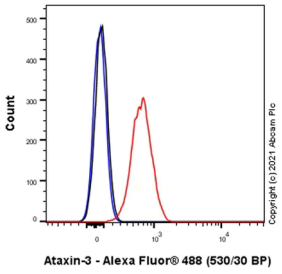


Immunocytochemistry/ Immunofluorescence - Anti-Ataxin 3 antibody [EPR24153-2] - BSA and Azide free (ab284865)

Ataxin 3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Ataxin 3 antibody

This data was developed using ab259828, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized U-87 MG cells labelling Ataxin-3 with ab259828 at 1/50 (10.16 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 nuclear and cytoplasmic staining in U-87 MG cell line 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).

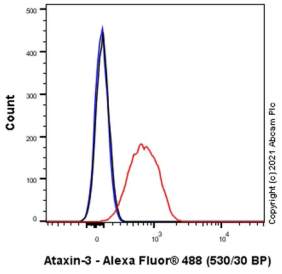
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Flow Cytometry (Intracellular) - Anti-Ataxin 3 antibody [EPR24153-2] - BSA and Azide free (ab284865)

Ataxin 3 Flow Cytometry (Intracellular) staining using rabbit Anti-Ataxin 3 antibody

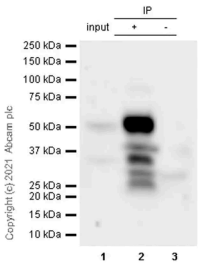
This data was developed using ab259828, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling Ataxin-3 with ab259828 at 1/500 dilution (0.1ug) (Red) 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, ab150081) at 1/2000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-Ataxin 3 antibody [EPR24153-2] - BSA and Azide free (ab284865)

Ataxin 3 Flow Cytometry (Intracellular) staining using rabbit Anti-Ataxin 3 antibody

This data was developed using ab259828, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized U-87 MG (Human glioblastoma-astrocytoma epithelial cell) cells labelling Ataxin-3 with ab259828 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, ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-Ataxin 3 antibody [EPR24153-2] - BSA and Azide free (ab284865)

This data was developed using ab259828, the same antibody clone in a different buffer formulation.
Ataxin-3 was immunoprecipitated from 0.35 mg HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate 10ug with ab259828 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab259828 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate 10ug

Lane 2: ab259828 IP in HeLa whole cell lysate

Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab259828 in HeLa whole cell lysate

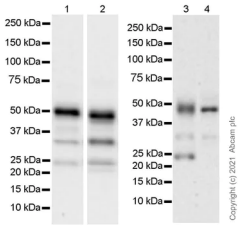
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 15 seconds

Bands below 37kDa might be Ataxin-3 fragmemts(PMID:30455355).

All lanes:
Immunoprecipitation - Anti-Ataxin 3 antibody [EPR24153-2] (ab259828)

Predicted band size: 42 kDa



Western blot - Anti-Ataxin 3 antibody [EPR24153-2] - BSA and Azide free (ab284865)

Ataxin 3 Western blot staining using rabbit Anti-Ataxin 3 antibody

This data was developed using ab259828, the same antibody clone in a different buffer formulation.
Bands below 37kDa might be Ataxin-3 fragmemts(PMID:30455355).

Lanes 1-2: 59 seconds

Lanes 3-4: 3 minutes

All lanes:
Western blot - Anti-Ataxin 3 antibody [EPR24153-2] (ab259828) at 1/1000 dilution

Lane 1:
U-87 MG (human glioblastoma-astrocytoma epithelial cell), whole cell lysate at 20 µg

Lane 2:
SH-SY5Y (human neuroblastoma epithelial cell), whole cell lysate at 20 µg

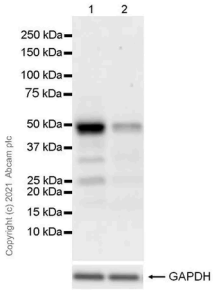
Lane 3:
Human brain tissue lysate at 20 µg

Lane 4:
Human heart tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 42 kDa



Western blot - Anti-Ataxin 3 antibody [EPR24153-2] - BSA and Azide free (ab284865)

Ataxin 3 Western blot staining using rabbit Anti-Ataxin 3 antibody

This data was developed using ab259828, the same antibody clone in a different buffer formulation.
Bands below 37kDa might be Ataxin-3 fragmemts(PMID:30455355).

Exposure time: 70 seconds

All lanes:
Western blot - Anti-Ataxin 3 antibody [EPR24153-2] (ab259828) at 1/1000 dilution

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

Lane 2:
Ataxin-3 knockdown HeLa whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 42 kDa

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