abcam

ab288163

Anti-Alpha-synuclein, isoform 98 and 112 antibody [EPR25115-65] - 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	EPR25115-65
Purification technique	Affinity purification Protein A
Specificity	Alpha-synuclein, isoform 98 and 112
Concentration	1.019 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Transfected cell line - Human

Dilution info	-
Notes	-

Predicted

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Transfected cell line - Human
Dilution info	-
Notes	-

WB

Tested

Species	Transfected cell line - Human
Dilution info	-
Notes	-

Predicted

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Transfected cell line - Human
Dilution info	-

Notes	-

Predicted

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Transfected cell line - Human
Dilution info	-
Notes	-

Predicted

Species	Human
Dilution info	-
Notes	-

Target data

See full target information SNCA

Function

Neuronal protein that plays several roles in synaptic activity such as regulation of synaptic vesicle trafficking and subsequent neurotransmitter release (PubMed:20798282, PubMed:26442590, PubMed:28288128, PubMed:30404828). Participates as a monomer in synaptic vesicle exocytosis by enhancing vesicle priming, fusion and dilation of exocytotic fusion pores (PubMed:28288128, PubMed:30404828). Mechanistically, acts by increasing local Ca(2+) release from microdomains which is essential for the enhancement of ATP-induced exocytosis (PubMed:30404828). Also acts as a molecular chaperone in its multimeric membrane-bound state, assisting in the folding of synaptic fusion components called SNAREs (Soluble NSF Attachment Protein REceptors) at presynaptic plasma membrane in conjunction with cysteine string protein-alpha/DNAJC5 (PubMed:20798282). This chaperone activity is important to sustain normal SNARE-complex assembly during aging (PubMed:20798282). Also plays a role in the regulation of the dopamine neurotransmission by associating with the dopamine transporter (DAT1) and thereby modulating its activity (PubMed:26442590).

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	Alpha-synuclein also known as alpha-synuclein kDa or isoform ANX-112 is a protein with a molecular mass of approximately 14 kDa. It is mostly expressed in the brain especially in the presynaptic terminals of neurons. Structurally it is a small cytosolic protein that can form amyloid fibrils and is sensitive to chemical modifications. Alpha-synuclein plays a role in the regulation of neurotransmitter release and neuronal plasticity though its precise mechanisms remain an area of active investigation.

Biological function summary	Alpha-synuclein interacts with various membrane phospholipids and can form insoluble aggregates. These aggregates are part of complex structures known as Lewy bodies prominent in neurodegenerative conditions. This protein is implicated in synaptic vesicle trafficking maintaining synaptic function and neuronal adaptive responses. Alpha-synuclein may also modulate enzyme activities and participate in genomic stability reflecting its versatile cellular roles.
Pathways	Alpha-synuclein is involved in the dopamine synthesis pathway and membrane trafficking pathways. In these pathways it interacts with proteins like synapsin and SNAREs influencing vesicle fusion and neurotransmitter packaging. Its association with such pathways highlights its role in maintaining neuronal integrity and communication. Dysregulation of alpha-synuclein's normal function might disrupt these pathways resulting in pathological consequences.
Associated diseases and disorders	Alpha-synuclein is most commonly linked to Parkinson's disease and Lewy body dementia. In these conditions abnormal accumulation and aggregation of alpha-synuclein into Lewy bodies occur. These aggregates impede cellular function and promote neuronal death. Additionally its relationship with other proteins like tau in the neurodegenerative disease context highlights its significant impact in multiple disorders associated with cellular aging and synaptic dysfunction.

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

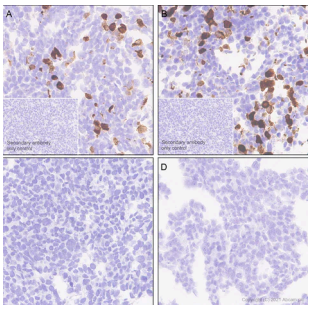
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha-synuclein, isoform 98 and 112 antibody [EPR25115-65] - BSA and Azide free (ab288163)

Alpha-synuclein, isoform 98 and 112 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Alpha-synuclein, isoform 98 and 112 antibody

This data was developed using ab288156, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded (A) HEK-293T cells transfected with a SNCA112 expression vector containing a his tag. (B) HEK-293T cells transfected with a SNCA98 expression vector containing a his tag. (C) HEK-293T cells transfected with a SNCA140 expression vector containing a his tag. (D) HEK-293T cells transfected with a SNCA126 expression vector containing a his tag labelling Alpha-synuclein, (isoform 98 and 112) with ab288156 at 1/1000 (5.24 ug/ml) followed by a ready to use LeicaDS9800 (Bond™, Polymer Refine Detection).

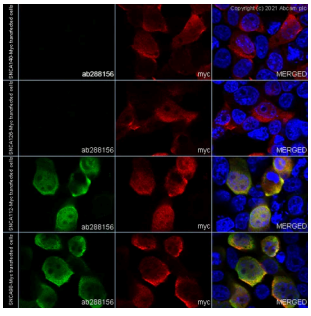
Posiitive staining on (A) HEK-293T cells transfected with a SNCA112 and (B) HEK-293T cells transfected with a SNCA98.

No staining on (C) HEK-293T cells transfected with a SNCA140 and (D) HEK-293T cells transfected with a SNCA126.

The section was incubated with ab288156 for 30 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 LeicaDS9800 (Bond™, Polymer Refine Detection).

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



Immunocytochemistry/ Immunofluorescence - Anti-Alpha-synuclein, isoform 98 and 112 antibody [EPR25115-65] - BSA and Azide free (ab288163)

Alpha-synuclein, isoform 98 and 112 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Alpha-synuclein, isoform 98 and 112 antibody

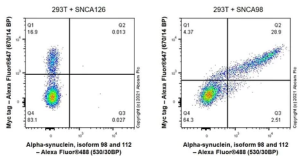
This data was developed using ab288156, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HEK-293T cells labelling Alpha-synuclein, isoform 98 and 112 with ab288156 at 1/100 (5.24 ug/ml) dilution, followed 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 and nuclear staining in HEK-293T cells transfected with a human SNCA112 expression vector and a human SNCA98 expression vector containing a myc tag.

No staining in HEK-293T cells transfected with a human SNCA126 expression vector or a human SNCA140 expression vector containing a myc tag.

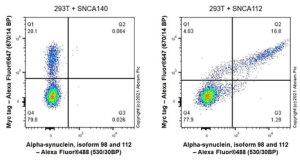
Myc-Tag Mouse mAb (Alexa Fluor® 647) was used to counterstain myc tag at 1/100 0.38ug/ml dilution (Red). The nuclear counterstain was DAPI (Blue).

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.



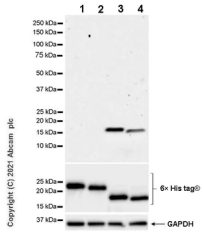
Flow Cytometry (Intracellular) - Anti-Alpha-synuclein, isoform 98 and 112 antibody [EPR25115-65] - BSA and Azide free (ab288163)

Intracellular Flow Cytometry analysis of HEK-293T (Human embryonic kidney epithelial cell) cells transfected with a human SNCA126 expression vector containing a his tag (Left) / HEK-293T cells transfected with a human SNCA98 expression vector containing a his tag (Right) labeling Alpha-synuclein, isoform 98 and 112 with ab288156 at 1/500 dilution (Left and Right). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1/2000 dilution.
This data was developed using ab288156, the same antibody clone in a different buffer formulation.



Flow Cytometry (Intracellular) - Anti-Alpha-synuclein, isoform 98 and 112 antibody [EPR25115-65] - BSA and Azide free (ab288163)

Intracellular Flow Cytometry analysis of HEK-293T (Human embryonic kidney epithelial cell) cells transfected with a human SNCA140 expression vector containing a his tag (Left) / HEK-293T cells transfected with a human SNCA112 expression vector containing a his tag (Right) labeling Alpha-synuclein, isoform 98 and 112 with ab288156 at 1/500 dilution (Left and Right). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1/2000 dilution.
This data was developed using ab288156, the same antibody clone in a different buffer formulation.



Western blot - Anti-Alpha-synuclein, isoform 98 and 112 antibody [EPR25115-65] - BSA and Azide free (ab288163)

Alpha-synuclein, isoform 98 and 112 Western blot staining using rabbit Anti-Alpha-synuclein, isoform 98 and 112 antibody

This data was developed using ab288156, the same antibody clone in a different buffer formulation.
This antibody can recognize human SNCA112 and human SNCA98, but not human SNCA140 and human SNCA126.

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

Exposure time: 3 minutes.

All lanes:
Western blot - Anti-Alpha-synuclein, isoform 98 and 112 antibody [EPR25115-65] (ab288156) at 1/1000 dilution

Lane 1:
HEK-293T cells (human embryonic kidney epithelial cell) transfected with a human SNCA140 expression vector containing a his tag, whole cell lysate at 10 µg

Lane 2:

HEK-293T cells transfected with a human SNCA126 expression vector containing a his tag, whole cell lysate at 10 µg

Lane 3:
HEK-293T cells transfected with a human SNCA112 expression vector containing a his tag, whole cell lysate at 10 µg

Lane 4:
HEK-293T cells transfected with a human SNCA98 expression vector containing a his tag, whole cell lysate at 10 µg

Secondary

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

Predicted band size: 14 kDa

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