abcam

ab290644

Anti-Alpha-synuclein, isoform 98 and 126 antibody [EPR25117-81]

Recombinant | RabMAb | 20ul selling size

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
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR25117-81
Purification technique	Affinity purification Protein A
Specificity	Alpha-synuclein, isoform 98 and 126.
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/2000

Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
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	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-synuclein isoform 98 and 126 also known as SNCA plays a mechanical role in neurons. This protein is an important part of the nerve cell cytoplasm distributed mainly in presynaptic terminals of the brain. With a molecular weight of about 14 kDa SNCA functions in both soluble and membrane-bound forms. Expression of alpha-synuclein occurs in the central nervous system but it is seen in some peripheral tissues too.
Biological function summary	The protein contributes to the regulation of synaptic vesicle trafficking and neurotransmitter release. As part of a complex alpha-synuclein interacts with a variety of other synaptic proteins affecting vesicle mobility and ensuring efficient synaptic transmission. It influences neuronal plasticity and survival supporting nervous system function. Though still under investigation these functions indicate a regulatory role in maintaining neural communication.
Pathways	One can see the involvement of alpha-synuclein in the dopamine and calcium signaling pathways. These pathways impact synaptic transmission with overlaps including proteins like LRRK2 and parkin. Alpha-synuclein's regulation of cellular transport processes connects these pathways impacting their overall function by modulating synaptic vesicle dynamics.
Associated diseases and disorders	Alpha-synuclein is linked to Parkinson's Disease and Lewy Body Dementia. These neurodegenerative disorders show abnormal accumulation of the protein. Interactions between SNCA and others such as tau protein and amyloid precursor protein lead to pathological changes. Understanding these interactions provides insight into how alpha-synuclein contributes to disease mechanisms making it an important focus for therapeutic research.

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

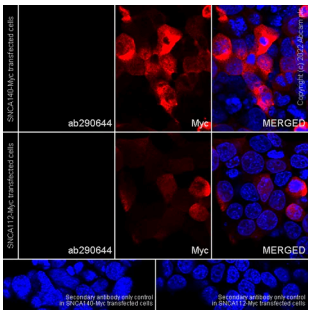
We do not recommend this combination. It is not covered by our product promise.

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.

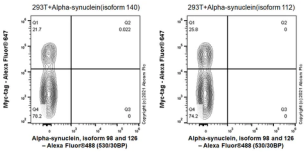
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-Alpha-synuclein, isoform 98 and 126 antibody [EPR25117-81] (ab290644)

Alpha-synuclein, isoform 98 and 126 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Alpha-synuclein, isoform 98 and 126 antibody

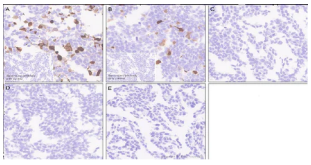
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeilized 293T (human embryonic kidney epithelial cell) cells lebelling Alpha-synuclein, isoform 98 and 126 with ab290644 at 1/2000 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor=® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing no staining in HEK-293T cells transfected with a human alpha-synuclein isoform SNCA140 or SNCA112 expression vector containing a myc tag is observed. Myc-Tag Mouse mAb (Alexa Fluor® 647) was used to counterstain tubulin at 1/100 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 dilution.



Flow Cytometry (Intracellular) - Anti-Alpha-synuclein, isoform 98 and 126 antibody [EPR25117-81] (ab290644)

Alpha-synuclein, isoform 98 and 126 Flow Cytometry (Intracellular) staining using rabbit Anti-Alpha-synuclein, isoform 98 and 126 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HEK-293T (Human embryonic kidney epithelial cell) transfected with a human Alpha-synuclein, isoform 140 (Left) or Alpha-synuclein, isoform 112 (Right) expression vector containing a myc-His tag cells labelling Alpha-synuclein, isoform 98 and 126 with ab290644 at 1/500 dilution/ Left and Right (Red) compared with a isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. No cross-reactivity with Alpha-synuclein, isoform 140 and isoform 112.



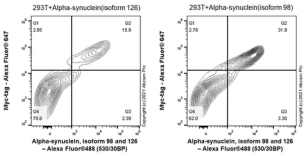
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha-synuclein, isoform 98 and 126 antibody [EPR25117-81] (ab290644)

Alpha-synuclein, isoform 98 and 126 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Alpha-synuclein, isoform 98 and 126 antibody

Immunohistochemical analysis of paraffin-embedded (A) HEK-293T cells tissue labelling Alpha-synuclein, isoform 98 and 126 with ab290644 at 1/100 (4.81 µg/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on (A) HEK-293T cells transfected with a SNCA98 expression vector containing a his tag and (B) HEK-293T cells

transfected with a SNCA126 expression vector containing a his tag. No staining on (C) HEK-293T cells transfected with a SNCA140 expression vector containing a his tag, (D) HEK-293T cells transfected with a SNCA112 expression vector containing a his tag and (E) HEK-293T cells transfected with empty vector containing a his tag. The section was incubated with ab290644 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) was used.

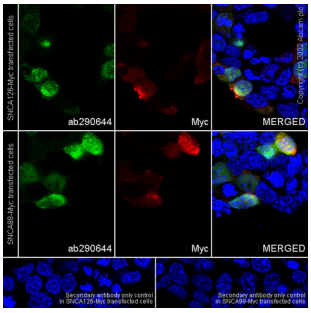
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Flow Cytometry (Intracellular) - Anti-Alpha-synuclein, isoform 98 and 126 antibody [EPR25117-81] (ab290644)

Alpha-synuclein, isoform 98 and 126 Flow Cytometry (Intracellular) staining using rabbit Anti-Alpha-synuclein, isoform 98 and 126 antibody

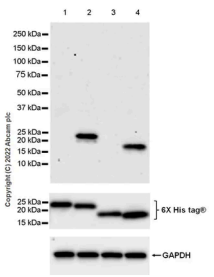
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HEK-293T (Human embryonic kidney epithelial cell) transfected with a human Alpha-synuclein, isoform 126 (Left) or Alpha-synuclein, isoform 98 (Right) expression vector containing a myc-His tag cells labelling Alpha-synuclein, isoform 98 and 126 with ab290644 at 1/500 dilution/ Left and Right compared with a isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry - Anti-Alpha-synuclein, isoform 98 and 126 antibody [EPR25117-81] (ab290644)

Alpha-synuclein, isoform 98 and 126 Immunocytochemistry staining using rabbit Anti-Alpha-synuclein, isoform 98 and 126 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeilized 293T (human embryonic kidney epithelial cell) cells lebelling Alpha-synuclein, isoform 98 and 126 with ab290644 at 1/2000 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor®488) preadsorbed antibody at 1/1000 dilution (Green). Confocal image showing positive staining in HEK-293T cells transfected with a human alpha-synuclein isoform SNCA98 and SNCA126 expression vector containing a myc tag is observed. Myc-Tag Mouse mAb (Alexa Fluor® 647) was used to counterstain tubulin at 1/100 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 dilution.



Western blot - Anti-Alpha-synuclein, isoform 98 and 126 antibody [EPR25117-81] (ab290644)

Blocking and diluting buffer and concentration was 5% NFDM/TBST.
This blot was developed using a higher sensitivity ECL substrate.

All lanes:
Western blot - Anti-Alpha-synuclein, isoform 98 and 126 antibody [EPR25117-81] (ab290644) at 1/1000 dilution

Lane 1:

HEK-293T (human embryonic kidney) cells transfected with a human SNCA140 expression vector containing a myc-His tag whole cell lysate at 20 µg

Lane 2:
HEK-293T cells transfected with a human SNCA126 expression vector containing a myc-His tag whole cell lysate at 20 µg

Lane 3:
HEK-293T cells transfected with a human SNCA112 expression vector containing a myc-His tag whole cell lysate at 20 µg

Lane 4:
HEK-293T cells transfected with a human SNCA98 expression vector containing a myc-His tag whole cell lysate at 20 µg

Secondary

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

Exposure time: 3min

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