abcam

ab214621

Anti-Synaptophysin antibody [EP1098Y] - 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	EP1098Y
Purification technique	Affinity purification Protein A
Concentration	0.978 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Rat
Dilution info	-
Notes	-

Expected

Species	Human, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Human, Mouse
Dilution info	Use at an assay dependent concentration.

Notes	-

Target data

See full target information SYP

Function	Possibly involved in structural functions as organizing other membrane components or in targeting the vesicles to the plasma membrane. Involved in the regulation of short-term and long-term synaptic plasticity (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab214621 is the carrier-free version of ab52636.

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	Synaptophysin also known as SYP is a glycoprotein approximately 38 kDa in size. It is expressed abundantly in the presynaptic vesicle membranes of neurons and in neuroendocrine cells. Synaptophysin serves as a marker for synaptic vesicles and neuroendocrine tumors. The protein plays a significant role in synaptic vesicle cycling processes engaging in the release and recycling of neurotransmitters.
Biological function summary	Synaptophysin contributes to synaptic transmission and is engaged in the formation and maintenance of the synaptic vesicle pools. It is a part of the complex involved in neuronal communication and might interact with other vesicular proteins to ensure efficient neurotransmitter exchange. Researchers often utilize anti-Synaptophysin antibodies such as Alexa Fluor 647 labeled ones for visualization under confocal microscopy.
Pathways	Synaptophysin operates within pathways involving neurotransmitter release and synaptic vesicle cycle. It connects to proteins like Synaptotagmin and SNAP-25 integral to the facilitation of synaptic transmission and exocytosis. These pathways ensure efficient signal conduction across neurons which is critical for normal nervous system functioning.
Associated diseases and disorders	Synaptophysin shows a strong association with neurodegenerative diseases and certain cancers like neuroblastoma. Altered expression levels or dysfunction of Synaptophysin can serve as a diagnostic marker for these conditions. The protein is connected with proteins like Bcl-2 in neurodegenerative diseases affecting cell survival and apoptosis pathways.

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

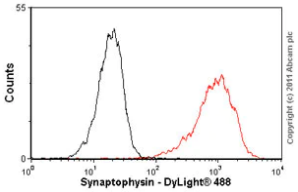
We do not recommend this combination. It is not covered by our product promise.

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.

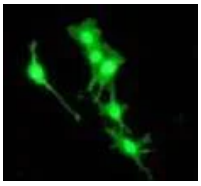
3 product images



Flow Cytometry (Intracellular) - Anti-Synaptophysin antibody [EP1098Y] - BSA and Azide free (ab214621)

Synaptophysin Flow Cytometry (Intracellular) staining using rabbit Anti-Synaptophysin antibody

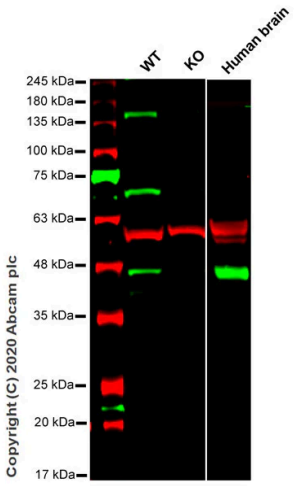
Overlay histogram showing PC12 cells stained with ab52636 (red line). The cells were fixed with methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab52636, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit monoclonal IgG (0.5µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a slightly decreased signal in PC12 cells fixed with 4% paraformaldehyde (10 min) used under the same conditions. Please note that Abcam do not have data for use of this antibody on non-fixed cells. We welcome any customer feedback. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52636).



Immunocytochemistry/ Immunofluorescence - Anti-Synaptophysin antibody [EP1098Y] - BSA and Azide free (ab214621)

Synaptophysin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Synaptophysin antibody

This ICC data was generated using the same anti-Synapthophysin antibody clone, EP1098Y, in a different buffer formulation (cat# ab52636).
PC12 cells labelled with ab52636 at 1/250 - 1/500 dilution



Western blot - Anti-Synaptophysin antibody [EP1098Y] - BSA and Azide free (ab214621)

Synaptophysin Western blot staining using rabbit Anti-Synaptophysin antibody

This data was developed using the same antibody clone in a different buffer formulation (ab52636).
Lanes 1-3: Merged signal (red and green). Green - ab52636 observed at 38 kDa. Red - loading control, ab7291 observed at 50 kDa.

ab52636 Anti-Synaptophysin antibody [EP1098Y] was shown to specifically react with Synaptophysin in wild-type HEK293T cells. Loss of signal was observed when knockout cell line ab267272 (knockout cell lysate ab257060) was used. Wild-type and Synaptophysin knockout samples were subjected to SDS-PAGE. ab52636 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti- Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti- Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Synaptophysin antibody [EP1098Y] - Synaptic Marker (ab52636) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
SYP knockout HEK-293T cell lysate at 20 µg

Lane 3:
Human brain tissue lysate

Performed under reducing conditions.

Predicted band size: 33 kDa

Observed band size: 38 kDa

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