

Anti-Synaptophysin antibody [YE269] - Synaptic Marker

Anti-Synaptophysin antibody [YE269] (ab32127) is a rabbit monoclonal antibody detecting Synaptophysin in **Western Blot, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 310 publications
- Trusted since 2006

Mouse version of this clone also available as ab309493. Same clone, same staining pattern, different species antibody backbone.

Learn more about chimeric antibodies

Recombinant

RabMAb

KO Validated

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
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	YE269
Purification technique	Affinity purification Protein A
Concentration	0.28 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested	
Species	Mouse
Dilution info	1/400 - 1/800
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.
Species	Rat
Dilution info	1/400 - 1/800
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.
Species	Human
Dilution info	1/400 - 1/800
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Predicted

Species	Donkey, Cow
Dilution info	-
Notes	-

ICC/IF

Tested	
Species	Mouse
Dilution info	0.1 µg/mL
Notes	-
Species	Rat
Dilution info	0.1 µg/mL
Notes	-

Expected

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

Predicted

Species	Donkey, Cow
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/20000 - 1/100000
Notes	Can be blocked with Synaptophysin peptide (ab189853).

Species	Rat
Dilution info	1/20000 - 1/100000
Notes	Can be blocked with Synaptophysin peptide (ab189853).

Species	Human
Dilution info	1/20000 - 1/100000
Notes	Can be blocked with Synaptophysin peptide (ab189853).

Predicted

Species	Donkey, Cow
Dilution info	-
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).
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Storage

Shipped at conditions	Conditional Ambient
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

Anti-Synaptophysin antibody [YE269] (ab32127) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in ICC/IF, IHC-P and WB.

Anti-Synaptophysin antibody [YE269] (ab32127) was first used in a scientific publication in 1986 and has been cited over 311 times in peer reviewed journals. It's performance in Western blot and IHC in mouse samples is trusted by the scientific community.

Abcam's high quality manufacturing and validation processes ensure Anti-Synaptophysin antibody [YE269] (ab32127) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

The specificity of Anti-Synaptophysin antibody [YE269] (ab32127) has been confirmed by Western Blot testing in Synaptophysin knockout HEK-293T cells (ab255356).

Anti-Synaptophysin antibody [YE269] (ab32127) has 38 independent reviews from customers.

Anti-Synaptophysin antibody [YE269] (ab32127) specifically detects Synaptophysin (UniProt ID: P08247; Molecular weight: 34kDa) and is sold in 100 µL and 1 mL selling sizes.

Conjugation-ready, carrier free format available for antibody clone YE269 - ab187259.

Antibody clone YE269 is also available pre-conjugated to a variety of labels for your convenience - HRP, Alexa Fluor® 647, Alexa Fluor® 488, Alexa Fluor® 594, Alexa Fluor® 555, (ab195520, ab196166, ab196379, ab206868, ab206870,).

Synaptophysin (SYP) is a key protein in neuro research, particularly for its role as a marker of synaptic vesicles. It is involved in synaptic transmission and vesicle trafficking. Researchers use synaptophysin to study synaptic density and integrity, making it essential for understanding synaptic function and dysfunction in various neurological conditions, including Alzheimer's disease (AD) and schizophrenia. Its expression helps in assessing synaptic health and the effects of neurodegenerative diseases on synaptic connectivity.

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	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

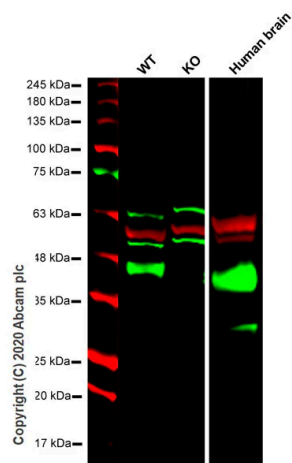
We do not recommend this combination. It is not covered by our product promise.

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](#).

17 product images



Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Western blot staining using rabbit Anti-Synaptophysin antibody

Lanes 1-3: Merged signal (red and green). Green - ab32127 observed at 38 kDa. Red - loading control, ab7291 observed at 50 kDa.

ab32127 Anti-Synaptophysin antibody [YE269] 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. ab32127 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 [YE269] - Synaptic Marker (ab32127) 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

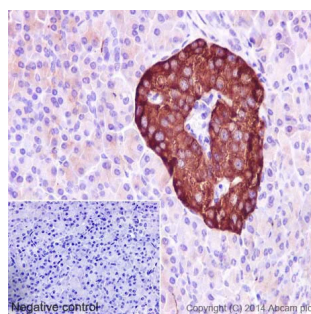
Lane 3:

Human brain tissue lysate

Performed under reducing conditions.

Predicted band size: 33 kDa

Observed band size: 38 kDa



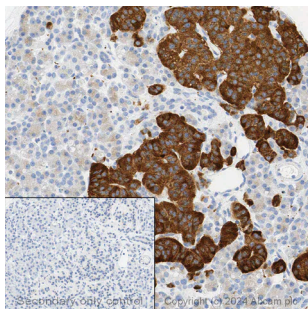
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Synaptophysin antibody

Immunohistochemical staining of paraffin embedded human pancreas with purified ab32127 at a dilution of 1/400.

A pre-diluted HRP polymer for rabbit/mouse IgG was used as the secondary antibody and the sample was counterstained with hematoxylin. Antigen retrieval was performed using Tris-EDTA buffer, pH 9.0.

PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



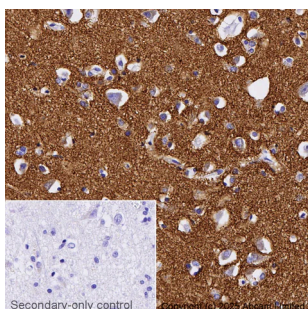
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human Pancreas tissue using rabbit Anti-Synaptophysin antibody

Immunohistochemical analysis of formalin fixed paraffin embedded human pancreas labelling synaptophysin with ab32127 at a concentration of 1 µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32mins.

ab32127 Anti-Synaptophysin antibody [YE269] was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.

Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of human Alzheimer's brain tissue using rabbit Anti-Synaptophysin antibody

Immunohistochemical analysis of paraffin-embedded human Alzheimer's brain tissue* labelling SYP with ab32127 at 1ug/ml followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

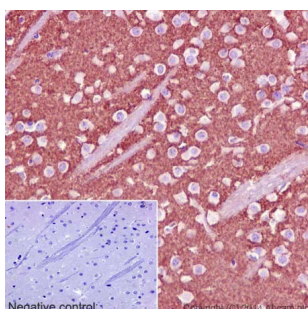
Positive staining in human Alzheimer's brain.

The section was incubated with ab32127 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 sodium citrate buffer (pH 6.0 epitope retrieval solution1) for 20 mins.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre.



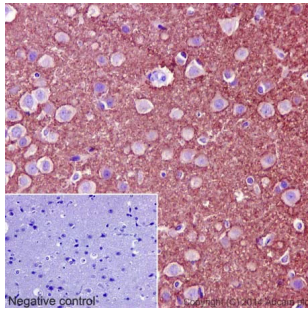
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Synaptophysin antibody

Immunohistochemical staining of paraffin embedded mouse cerebral cortex with purified ab32127 at a dilution of 1/400.

A pre-diluted HRP polymer for rabbit/mouse IgG was used as the secondary antibody and the sample was counterstained with hematoxylin. Antigen retrieval was performed using Tris-EDTA buffer, pH 9.0.

PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



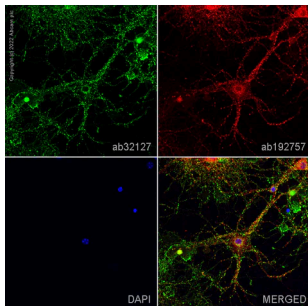
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Synaptophysin antibody

Immunohistochemical staining of paraffin embedded rat cerebral cortex with purified ab32127 at a dilution of 1/400.

A pre-diluted HRP polymer for rabbit/mouse IgG was used as the secondary antibody and the sample was counterstained with hematoxylin. Antigen retrieval was performed using Tris-EDTA buffer, pH 9.0.

PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



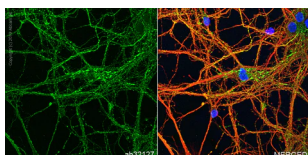
Immunocytochemistry/ Immunofluorescence - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Synaptophysin antibody

ab32127 staining Synaptophysin in primary mouse neurons/glia, DIV14 (prepared from E18 mouse hippocampal brain area, obtained from Transnetyx Tissue by BrainBits, LLC, cat.no. C57EHP) cells. The cells were fixed with 4% paraformaldehyde (10 min), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab32127 at 0.1µg/ml and [ab192757](#), Mouse mono Anti-PSD95 antibody [K28/43] - Synaptic Marker. Cells were then incubated with [ab150081](#), Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and [ab150120](#), Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Also suitable in cells fixed with 100% methanol (5 min).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.

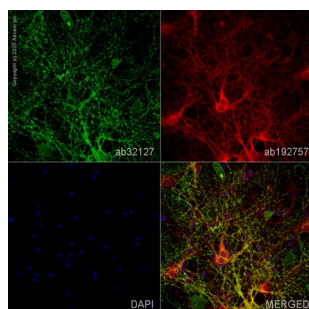


Immunocytochemistry/ Immunofluorescence - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Synaptophysin antibody

Immunocytochemistry/ Immunofluorescence analysis of mouse primary neuron cells labeling Synaptophysin with purified ab32127 at 1/100 (2.7µg/mL). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with [ab195889](#) Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, [ab150077](#)) was used as the secondary antibody at

1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.

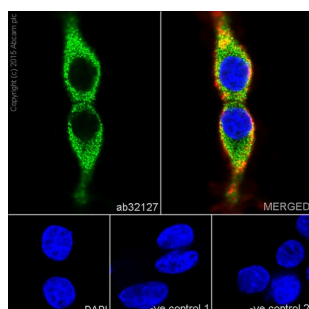


Immunocytochemistry/ Immunofluorescence - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Synaptophysin antibody

ab32127 staining Synaptophysin in primary hippocampal rat neurons/glia, (obtained from Neuromics, cat. no. PC35101), DIV14. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab32127 at 0.1µg/ml and [ab192757](#), Mouse mono Anti-PSD95 antibody [K28/43] - Synaptic Marker. Cells were then incubated with [ab150081](#), Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and [ab150120](#), Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue). Also suitable in cells fixed with 4% paraformaldehyde (10 min).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.

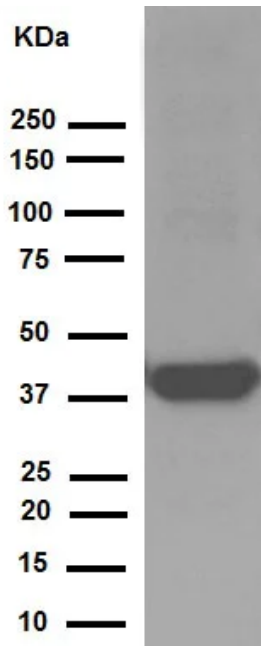


Immunocytochemistry/ Immunofluorescence - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Synaptophysin antibody

Immunofluorescent staining of PC-12 (rat adrenal gland pheochromocytoma cell line) cells (fixed in 4% PFA, permeabilized with 0.1% Triton X 100) using purified ab32127 at a dilution of 1/50. An Alexa Fluor® 488 goat anti-rabbit antibody was used as the secondary at a dilution of 1/500 and the cells were counterstained with DAPI.

The negative control is shown in the bottom right hand panel - for the negative control, Alex Fluor® 594 goat anti-mouse was used at a dilution of 1/500.



Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Western blot staining of Human fetal brain using rabbit Anti-Synaptophysin antibody

All lanes:

Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127) at 1/100000 dilution

All lanes:

Human fetal brain at 20 µg

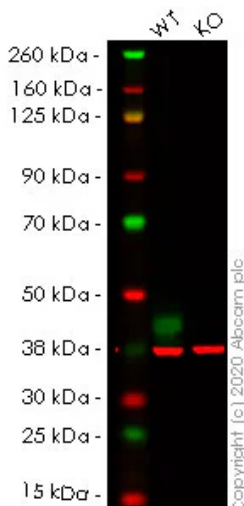
Secondary

All lanes:

HRP goat anti-rabbit (H+L) at 1/1000 dilution

Predicted band size: 33 kDa

Observed band size: 38 kDa



Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Western blot staining using rabbit Anti-Synaptophysin antibody

Lanes 1- 2: Merged signal (red and green). Green - ab32127 observed at 38 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.

ab32127 was shown to react with Syp in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line [ab255356](#) (knockout cell lysate [ab263862](#)) was used. Wild-type HEK-293T and SYP knockout HEK-293T cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab32127 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 1000 dilution and a 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 20000 dilution for 1 hour at room temperature before imaging.

All lanes:

Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127) at 1/1000 dilution

Lane 1:

Wild-type HEK-293T cell lysate at 20 µg

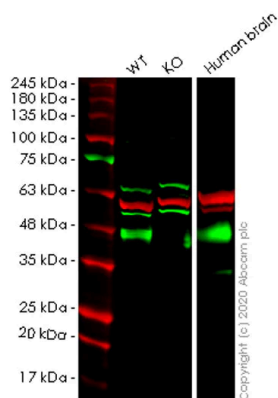
Lane 2:

Western blot - Human SYP (Synaptophysin) knockout HEK-293T cell lysate ([ab263862](#)) at 20 µg

Performed under reducing conditions.

Predicted band size: 33 kDa

Observed band size: 38 kDa



Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Western blot staining using rabbit Anti-Synaptophysin antibody

Lanes 1-3: Merged signal (red and green). Green - ab32127 observed at 38 kDa. Red - loading control, [ab7291](#) observed at 50 kDa.

ab32127 Anti-Synaptophysin antibody [YE269] 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. ab32127 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 [YE269] - Synaptic Marker (ab32127) at 1/1000 dilution

Lane 1:

Wild-type HEK293T cell lysate at 20 µg

Lane 2:

Syp knockout HEK293T cell lysate at 20 µg

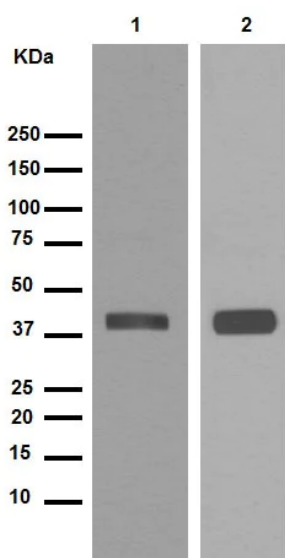
Lane 3:

Human brain tissue lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 33 kDa

Observed band size: 38 kDa



Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Western blot staining using rabbit Anti-Synaptophysin antibody

Blocking/Dilution buffer: 5% NFDM/TBST

All lanes:

Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127) at 1/100000 dilution

Lane 1:

Mouse brain

Lane 2:

Rat brain

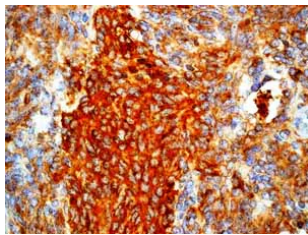
Secondary

All lanes:

HRP goat anti-rabbit at 1/1000 dilution

Predicted band size: 33 kDa

Observed band size: 38 kDa

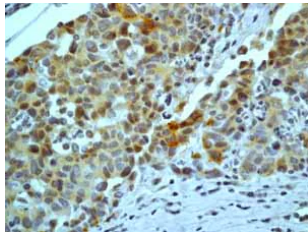


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Synaptophysin antibody

Unpurified ab32127 showing positive staining in medulloblastoma tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

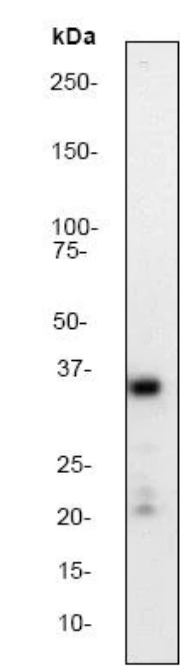


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Synaptophysin antibody

Unpurified ab32127 showing positive staining in lung neuroendocrine tumor tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127)

Synaptophysin Western blot staining of PC-12 (rat adrenal gland pheochromocytoma cell line) cell lysate using rabbit Anti-Synaptophysin antibody

All lanes:
Western blot - Anti-Synaptophysin antibody [YE269] - Synaptic Marker (ab32127) at 1/10000 dilution

All lanes:
PC-12 (rat adrenal gland pheochromocytoma cell line) cell lysate

Predicted band size: 33 kDa

Observed band size: 21 kDa, 22 kDa, 34 kDa

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