abcam

ab181869

Anti-VAMP2 antibody [EPR12790]

Anti-VAMP2 antibody [EPR12790] (ab181869) is a rabbit monoclonal antibody detecting VAMP2 in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR12790
Purification technique	Affinity purification Protein A
Concentration	0.522 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human

Dilution info	1/150
Notes	**For unpurified use at 1/70.**

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/10000 - 1/50000
Notes	-

Species	Rat
Dilution info	1/10000 - 1/50000
Notes	-

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	**For unpurified use at 1/500.**

Expected

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

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	For unpurified use at 1/150. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information VAMP2

Function	Involved in the targeting and/or fusion of transport vesicles to their target membrane (By similarity). Major SNARE protein of synaptic vesicles which mediates fusion of synaptic vesicles to release neurotransmitters. Essential for fast vesicular exocytosis and activity-dependent neurotransmitter release as well as fast endocytosis that mediates rapid reuse of synaptic vesicles (By similarity) (PubMed:30929742). Modulates the gating characteristics of the delayed rectifier voltage-dependent potassium channel KCNB1.

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

What is this antibody validated in?
Anti-VAMP2 antibody [EPR12790] (ab181869) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of VAMP2?
Anti-VAMP2 [EPR12790] (ab181869) specifically detects a band for VAMP2 (UniProt: P63027) at a molecular weight of 13kDa.

Trusted by the scientific community
Anti-VAMP2 [EPR12790] (ab181869) was first used in a scientific publication in 2014 and has been cited over 10 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR12790] also available for your convenience: ab181869, HRP - ab198948, Alexa Fluor® 647 - ab198949, PE - ab214529, Carrier free - ab214590

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Vesicle-associated membrane protein 2 (VAMP2) also known as synaptobrevin 2 is a member of the SNARE protein family with a molecular mass of approximately 13 kDa. VAMP2 plays an important role in vesicle trafficking and membrane fusion particularly in the nervous system. It is prominently expressed in the brain where

	it facilitates neurotransmitter release by forming SNARE complexes essential for synaptic vesicle fusion with the presynaptic membrane.
Biological function summary	VAMP2 interacts with other SNARE proteins such as synaptosomal-associated protein 25 (SNAP-25) and syntaxin-1 to form stable complexes necessary for synaptic vesicle docking and exocytosis. As part of the SNARE complex VAMP2 contributes to the precise regulation of neurotransmitter release in neurons which is critical for synaptic transmission and plasticity. Its function is vital for the communication between neurons and proper brain function.
Pathways	VAMP2 plays a significant role in the synaptic vesicle cycle and neurotransmitter release pathways. It is central to the exocytosis pathway where it interacts with Rab3a a small GTPase that regulates vesicle docking. By participating in these pathways VAMP2 ensures efficient neurotransmission and contributes to neuronal communication processes. VAMP2's interaction with related proteins like SNAP-25 and syntaxin-1 highlights its importance in these synaptic processes.
Associated diseases and disorders	VAMP2 has associations with conditions such as epilepsy and neurodegenerative diseases. Alterations in VAMP2 expression or function can disrupt normal neurotransmitter release impacting synaptic function and leading to neurological symptoms. VAMP2's relationship with SNAP-25 and syntaxin-1 further implicates it in these disorders as these proteins collectively regulate neural communication. Understanding VAMP2's role in these illnesses aids in the development of potential therapeutic strategies targeting SNARE complex dysfunctions.

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

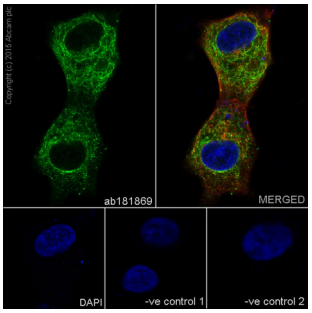
We do not recommend this combination. It is not covered by our product promise.

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:

12 product images

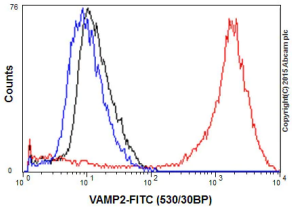


Immunocytochemistry/ Immunofluorescence - Anti-VAMP2 antibody [EPR12790] (ab181869)

VAMP2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-VAMP2 antibody

Immunocytochemistry/Immunofluorescence analysis of U87-MG (human glioblastoma) cells labelling VAMP2 with purified ab181869 at 1/250. Cells were fixed with 100% methanol and permeabilized with 0.1% Triton X-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. ab7291, a mouse anti-tubulin (1/1000) and ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000) were also used.
Control 1: primary antibody (1/100) and secondary antibody, ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500).

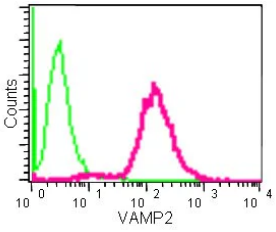
Control 2: ab7291 (1/1000) and secondary antibody, ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/500).



Flow Cytometry (Intracellular) - Anti-VAMP2 antibody [EPR12790] (ab181869)

VAMP2 Flow Cytometry (Intracellular) staining using rabbit Anti-VAMP2 antibody

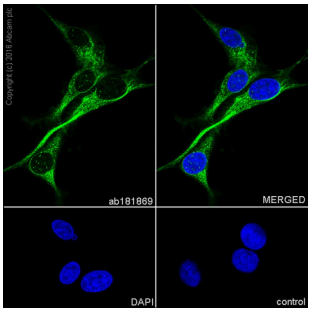
Intracellular Flow Cytometry analysis of SH-SY5Y cells labelling VAMP2 with purified ab181869 at 1/100 (red). Cells were fixed with 4% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.



Flow Cytometry (Intracellular) - Anti-VAMP2 antibody [EPR12790] (ab181869)

VAMP2 Flow Cytometry (Intracellular) staining using rabbit Anti-VAMP2 antibody

Intracellular Flow Cytometry analysis of Jurkat cells fixed with 2% paraformaldehyde labeling VAMP2 with unpurified ab181869 at 1/150 dilution followed by Goat anti rabbit IgG (FITC) at 1/150 dilution. Rabbit monoclonal IgG was used as an isotype control.

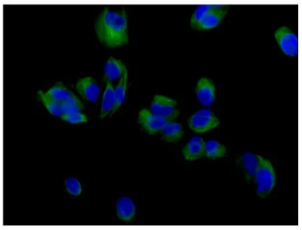


Immunocytochemistry/ Immunofluorescence - Anti-VAMP2 antibody [EPR12790] (ab181869)

VAMP2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-VAMP2 antibody

ab181869 staining VAMP2 in U87-MG (human glioblastoma) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 100% methanol. Samples were incubated with primary antibody at a dilution of 1/500. A goat anti rabbit IgG (Alexa Fluor®

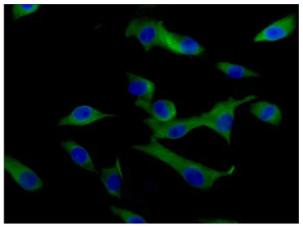
488) (ab150077) was used as the secondary antibody at a dilution of 1/1000. DAPI was used as a nuclear counterstain.
Negative control 1:PBS only.



Immunocytochemistry/ Immunofluorescence - Anti-VAMP2 antibody [EPR12790] (ab181869)

VAMP2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-VAMP2 antibody

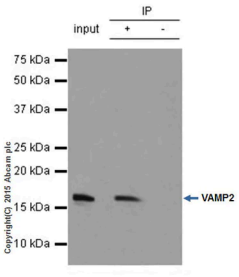
Immunofluorescent analysis of SH-SYSY cells (human cell line) (4% paraformaldehyde-fixed) labeling VAMP2 with unpurified ab181869 at 1/500 dilution followed by Goat anti rabbit IgG (Alexa Fluor®488) at 1/200 dilution and counterstained with DAPI.



Immunocytochemistry/ Immunofluorescence - Anti-VAMP2 antibody [EPR12790] (ab181869)

VAMP2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-VAMP2 antibody

Immunofluorescent analysis of U87-MG cells (4% paraformaldehyde-fixed) labeling VAMP2 with ab181869 at 1/500 dilution followed by Goat anti rabbit IgG (Alexa Fluor®488) at 1/200 dilution and counterstained with Dapi.



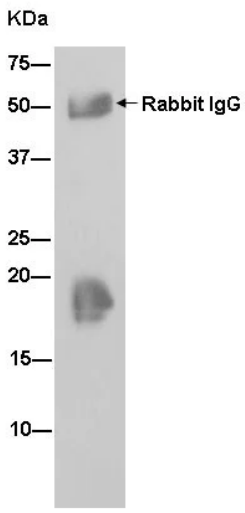
Immunoprecipitation - Anti-VAMP2 antibody [EPR12790] (ab181869)

ab181869 (purified) at 1/150 immunoprecipitating VAMP2 in Human cerebellum whole cell lysate. 10 ug of cell lysate was present in the input. For western blotting, a HRP-conjugated Veriblot for IP Detection Reagent (ab131366) (1/1,500) was used for detection. A rabbit monoclonal IgG (ab172730) was used intead of ab128913 as a negative control (Lane 3).
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Immunoprecipitation - Anti-VAMP2 antibody [EPR12790] (ab181869)

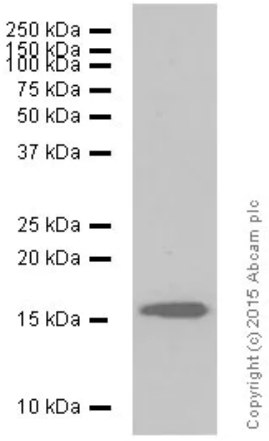
Predicted band size: 13 kDa



Immunoprecipitation - Anti-VAMP2 antibody [EPR12790] (ab181869)

Western blot analysis of immunoprecipitation pellet from Human cerebellum lysate immunoprecipitated using ab181869 at 1/70 dilution.
Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution.
All lanes:
Immunoprecipitation - Anti-VAMP2 antibody [EPR12790] (ab181869)

Predicted band size: 13 kDa



Western blot - Anti-VAMP2 antibody [EPR12790] (ab181869)

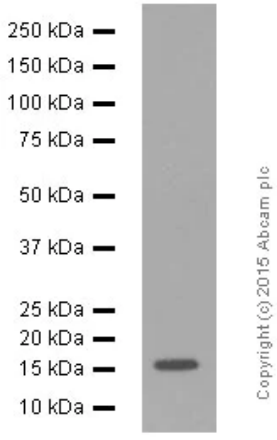
Blocking buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM /TBST.
All lanes:
Western blot - Anti-VAMP2 antibody [EPR12790] (ab181869) at 1/50000 dilution

All lanes:
Human cerebellum lysate at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 13 kDa



Western blot - Anti-VAMP2 antibody [EPR12790] (ab181869)

VAMP2 Western blot staining of Rat heart lysate using rabbit Anti-VAMP2 antibody

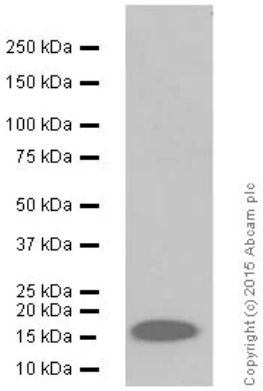
Blocking buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM /TBST.
All lanes:
Western blot - Anti-VAMP2 antibody [EPR12790] (ab181869) at 1/10000 dilution

All lanes:
Rat heart lysate at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 13 kDa



Western blot - Anti-VAMP2 antibody [EPR12790] (ab181869)

VAMP2 Western blot staining of Mouse brain lysate using rabbit Anti-VAMP2 antibody

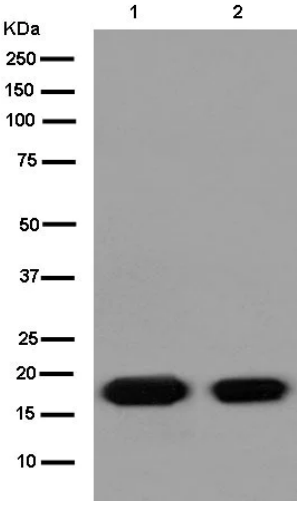
Blocking buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM /TBST.
All lanes:
Western blot - Anti-VAMP2 antibody [EPR12790] (ab181869) at 1/50000 dilution

All lanes:
Mouse brain lysate at 10 µg

Secondary

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

Predicted band size: 13 kDa, 36 kDa



Western blot - Anti-VAMP2 antibody [EPR12790] (ab181869)

All lanes:
Western blot - Anti-VAMP2 antibody [EPR12790] (ab181869) at 1/50000 dilution

Lane 1:
Human fetal brain lysate at 10 µg

Lane 2:
Human cerebellum lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 13 kDa

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