abcam

ab109105

Anti-SNAP25 antibody [EPR3275]

Anti-SNAP25 antibody [EPR3275] (ab109105) is a rabbit monoclonal antibody detecting SNAP25 in **Western Blot, Flow Cytometry (Intra), ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications

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	EPR3275
Purification technique	Affinity purification Protein A
Concentration	2.224 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/250
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/200
Notes	-

Expected

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

Target data

See full target information SNAP25

Function	t-SNARE involved in the molecular regulation of neurotransmitter release. May play an important role in the synaptic function of specific neuronal systems. Associates with proteins involved in vesicle docking and membrane fusion. Regulates plasma membrane recycling through its interaction with CENPF. Modulates the gating characteristics of the delayed rectifier voltage-dependent potassium channel KCNB1 in pancreatic beta cells.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

What is this antibody validated in?
Anti-SNAP25 antibody [EPR3275] (ab109105) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of SNAP25?
Anti-SNAP25 [EPR3275] (ab109105) specifically detects a band for SNAP25 (UniProt: P60880) at a molecular weight of 23kDa.

Trusted by the scientific community
Anti-SNAP25 [EPR3275] (ab109105) was first used in a scientific publication in 2011 and has been cited over 20 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-SNAP25 antibody [EPR3275] (ab109105) has been confirmed by Western blot testing in SNAP25 Knockout SH-SY5Y cell line, ab280041.

Other related products
We have a range of other formats of antibody clone [EPR3275] also available for your convenience: ab109105, Carrier free - ab171355, Alexa Fluor® 488 - ab320326, Alexa Fluor® 647 - ab320327, Alexa Fluor® 555 - ab320328, Alexa Fluor® 594 - ab320329, PE - ab320330, APC - ab320331

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	SNAP25 also known as Synaptosomal-associated protein 25 plays a critical role in neurotransmitter release through its involvement in the vesicle fusion process. It is part of the SNARE complex and is essential for the docking and fusion of synaptic vesicles with the presynaptic membrane. The protein is approximately 25 kDa in mass and is expressed abundantly in neurons within the central nervous system. Among its various synonyms you may encounter 'protein SNAP' in some literature.
Biological function summary	SNARE proteins mediate the fusion of transport vesicles with their target membranes. SNAP25 as part of this complex facilitates synaptic-vesicle exocytosis by forming a tight complex with syntaxin and VAMP (also called synaptobrevin). This interaction promotes the merging of vesicle and plasma membranes enabling efficient neurotransmitter release into the synaptic cleft. SNAP25 undergoes dynamic regulation and modification which is important for precise synaptic function.
Pathways	One observes SNAP25's integration in the process of neurotransmitter release specifically in the exocytosis pathway. It associates closely with other SNARE proteins such as syntaxin-1 and VAMP-2 embodying a core element in synaptic signaling mechanisms. The proper functioning of SNAP25 within this pathway assures the controlled release of neurotransmitters influencing synaptic plasticity and communication.

Associated diseases and disorders	SNAP25 exhibits strong associations with conditions such as Attention Deficit Hyperactivity Disorder (ADHD) and epilepsy. Variants and dysregulation in SNAP25 have been linked to problems in synaptic transmission which can contribute to these neurological disorders. The protein also interacts with other SNARE complex proteins such as syntaxin which can potentially mediate its role in disease pathogenesis. Understanding these interactions offers insights into therapeutic targets for neurological disorders involving SNAP25.

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

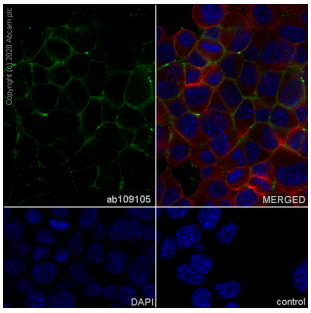
We do not recommend this combination. It is not covered by our product promise.

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.

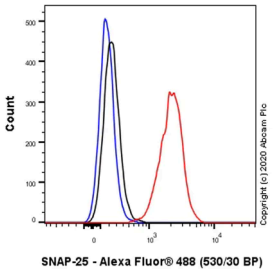
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-SNAP25 antibody [EPR3275] (ab109105)

SNAP25 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SNAP25 antibody

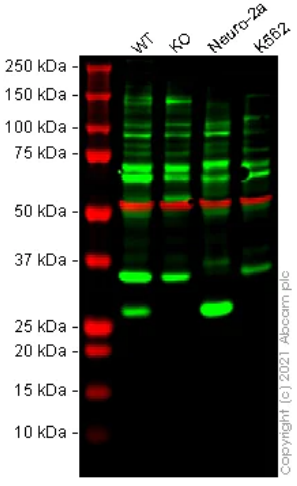
Immunocytochemistry analysis of Neuro-2a(Mouse neuroblastoma neuroblast) cells labeling SNAP25 with Purified ab109105 at 1/250 dilution (8.9 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - 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.



Flow Cytometry (Intracellular) - Anti-SNAP25 antibody [EPR3275] (ab109105)

SNAP25 Flow Cytometry (Intracellular) staining using rabbit Anti-SNAP25 antibody

Flow Cytometry analysis of Neuro-2a(Mouse neuroblastoma neuroblast) cells labelling SNAP25 with Purified ab109105 at 1:200 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor™ 488, ab150077) secondary antibody was used at 1:2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Western blot - Anti-SNAP25 antibody [EPR3275] (ab109105)

SNAP25 Western blot staining using rabbit Anti-SNAP25 antibody

False colour image of Western blot: Anti-SNAP25 antibody [EPR3275] staining at 1/1000 dilution, shown in green; loading control ab7291 (Mouse anti-Alpha Tubulin [DM1A]) staining at 1/20000 dilution, shown in red. In Western blot, ab109105 was shown to bind specifically to SNAP25. A band was observed at 27 kDa in wild-type SH-SY5Y cell lysates with no signal observed at this size in SNAP25 knockout cell line ab280041 (knockout cell lysate ab280100). To generate this image, wild-type and SNAP25 knockout SH-SY5Y cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.
All lanes:
Western blot - Anti-SNAP25 antibody [EPR3275] (ab109105) at 1/1000 dilution

Lane 1:
Wild-type SH-SY5Y cell lysate at 20 µg

Lane 2:
SNAP25 knockout SH-SY5Y cell lysate at 20 µg

Lane 2:
Western blot - Human SNAP25 knockout SH-SY5Y cell line (ab280041)

Lane 3:
Neuro-2a cell lysate at 20 µg

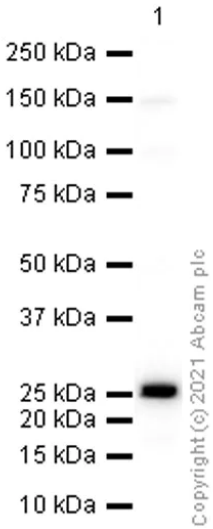
Lane 4:
K562 cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 23 kDa

Observed band size: 27 kDa

Western blot - Anti-SNAP25 antibody [EPR3275] (ab109105)



SNAP25 Western blot staining of Human brain lysate using rabbit Anti-SNAP25 antibody

All lanes:
Western blot - Anti-SNAP25 antibody [EPR3275] (ab109105) at 1/1000 dilution

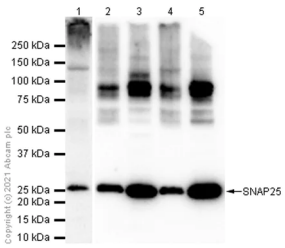
All lanes:
Human brain lysate at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 23 kDa

Observed band size: 25 kDa



Western blot - Anti-SNAP25 antibody [EPR3275] (ab109105)

SNAP25 Western blot staining using rabbit Anti-SNAP25 antibody

All lanes:
Western blot - Anti-SNAP25 antibody [EPR3275] (ab109105) at 1/1000 dilution

Lane 1:
Neuro-2a (Mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Lane 2:
Mouse brain lysate at 20 µg

Lane 3:
Mouse hippocampus lysate at 20 µg

Lane 4:
Rat brain lysate at 20 µg

Lane 5:
Rat hippocampus lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 23 kDa

Observed band size: 25 kDa

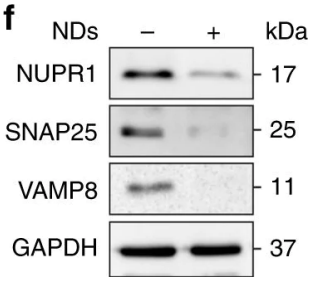


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Western blot - Anti-SNAP25 antibody [EPR3275] (ab109105)

SNAP25 Western blot staining using rabbit Anti-SNAP25 antibody

SNAP25 western blot using anti-SNAP25 antibody [EPR3275] ab109105. Publication image and figure legend from Cui, Z., Zhang, Y., et al., 2018, Nat Commun, PubMed 30341298.

ab109105 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab109105 please see the product overview.

Screening of potent NAPIs in HepG2. a Immunoblots for autophagy-related proteins LC3-II, p62 (left); semi-quantified analysis (n = 3) in various nanoparticles treated cells (right). CQ and Rapamycin (Rapa) were used as positive controls for autophagy inhibition and autophagy activation, respectively. Glyceraldehyde 3-phosphate dehydrogenase (GAPDH) was used as the loading control. Normalized band densities were shown below each band. b Fluorescence images of mCherry-GFP-LC3 cells after incubation with CQ or NDs for 48 h (autophagosomes: mCherry+/GFP+ yellow puncta; autolysosomes: mCherry+/GFP) and quantification of the number of LC3 puncta per cell in cells (10 cells per group). Scale bar: 10 µm. c Immunoblots for autophagy-related proteins LC3-II, p62 (left); semi-quantified analysis (n = 3) in CQ, NDs, or CQ–NDs-treated cells (right). &p < 0.05, significantly different from NDs. GAPDH was used as the loading control. Normalized band densities were shown below each band. d Left: Cell viability after incubation with ATO or various NAPIs–ATO mixture for 48 h (n = 3). ##p < 0.01 by t-test, significantly different from ATO. Right: Cell viability after 48 h NDs–ATO treatment with RNAi of autophagy proteins ATG5 and ATG7 (n = 3). e, f Immunoblots for autophagy-related protein LC3-II and autolysosomal process-related protein NUPR1, SNAP25, VAMP8 in NDs-treated cells. g Immunoblots for

autolysosomal process-related protein NUPR1 after NDs treatment with RNAi of autophagy proteins ATG5 and ATG7. GAPDH was used as the loading control. Error bars are s.d.

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