abcam

ab66066

Anti-SNAP25 antibody [4A3]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 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	4A3
Purification technique	Affinity purification Protein A

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Rat, Chicken, Dog, Xenopus laevis, Cynomolgus monkey, Opossum, Orangutan
Dilution info	-
Notes	-

WB

Tested

Species	Mouse, Zebrafish, Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Chicken, Dog, Xenopus laevis, Cynomolgus monkey, Opossum, Orangutan
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Notes	-

Predicted

Species	Rat, Chicken, Dog, Xenopus laevis, Cynomolgus monkey, Opossum, Orangutan
Dilution info	-
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	Blue Ice
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

This product was changed from ascites to tissue culture supernatant on 4th April 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

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

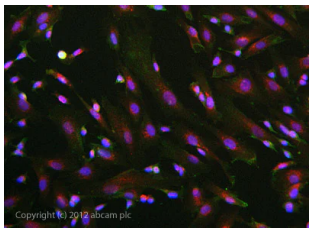
We do not recommend this combination. It is not covered by our product promise.

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.

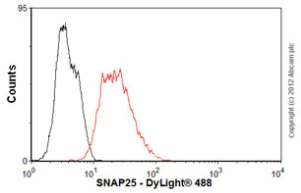
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-SNAP25 antibody [4A3] (ab66066)

SNAP25 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-SNAP25 antibody

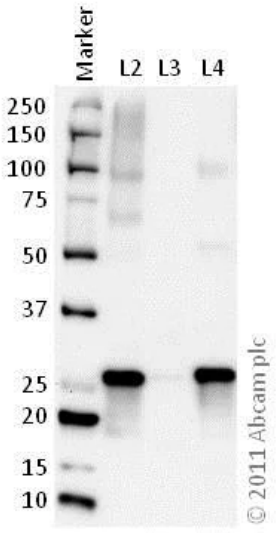
ab66066 stained SKNSH cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab66066 at 5µg/ml overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti- mouse (ab96879) IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.
This image was generated using the ascites version of the product.



Flow Cytometry - Anti-SNAP25 antibody [4A3] (ab66066)

SNAP25 Flow Cytometry staining using mouse Anti-SNAP25 antibody

Overlay histogram showing SH-SY5Y cells stained with ab66066 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab66066, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SH-SY5Y cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.
This image was generated using the ascites version of the product.



Western blot - Anti-SNAP25 antibody [4A3] (ab66066)

SNAP25 Western blot staining using mouse Anti-SNAP25 antibody

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-SNAP25 antibody [4A3] (ab66066) at 1 µg/mL

Lane 1:
Marker

Lane 2:
Zebrafish brain homogenate at 20 µg

Lane 3:
SH-SY5Y (Human neuroblastoma cell line) whole cell lysate at 20 µg

Lane 4:
Mouse brain homogenate at 20 µg

Secondary

All lanes:
Goat polyclonal to Mouse IgG – H&L – Pre-Adsorbed (HRP) at 1/6000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 23 kDa

Observed band size: 26 kDa

Exposure time: 2min

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