SANTA CRUZ BIOTECHNOLOGY, INC.

SNAP 25 (H-1): sc-376713

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Syntaxins were originally thought to be docking proteins, but have now been categorized as anchoring proteins that anchor themselves to the cytoplasmic surfaces of cellular membranes. Syntaxins have been shown to bind to various proteins involved in exocytosis, including VAMPs (vesicle-associated membrane proteins), NSF (N-ethylmaleimide-sensitive factor), SNAP 25, SNAPs (soluble NSF attachment proteins) and synaptotagmin. VAMPs, also designated synaptobrevins, including VAMP-1 and VAMP-2, and synaptotagmin, a protein that may function as an inhibitor of exocytosis, are vesicular proteins. SNAPs, including α- and γ-SNAP, are cytoplasmic proteins that bind to a membrane receptor complex composed of VAMP, SNAP 25 and syntaxin. SNAPs mediate the membrane binding of NSF, which is essential for membrane fusion reactions. An additional protein designated synaptophysin may regulate exocytosis by competing with SNAP 25 and syntaxins for VAMP binding.

CHROMOSOMAL LOCATION

Genetic locus: SNAP25 (human) mapping to 20p12.2; Snap25 (mouse) mapping to 2 F3.

SOURCE

SNAP 25 (H-1) is a mouse monoclonal antibody raised against amino acids 91-140 mapping within an internal region of SNAP 25 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SNAP 25 (H-1) is available conjugated to agarose (sc-376713 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376713 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376713 PE), fluorescein (sc-376713 FITC), Alexa Fluor® 488 (sc-376713 AF488), Alexa Fluor® 546 (sc-376713 AF546), Alexa Fluor® 594 (sc-376713 AF594) or Alexa Fluor® 647 (sc-376713 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376713 AF680) or Alexa Fluor® 790 (sc-376713 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SNAP 25 (H-1) is recommended for detection of SNAP 25 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SNAP 25 (H-1) is also recommended for detection of SNAP 25 in additional species, including equine, canine, bovine, porcine and avian.

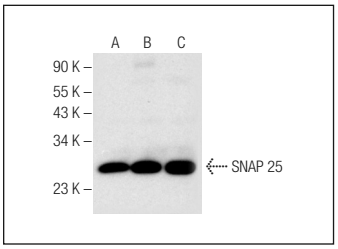
Suitable for use as control antibody for SNAP 25 siRNA (h): sc-36517, SNAP 25 siRNA (m): sc-36516, SNAP 25 shRNA Plasmid (h): sc-36517-SH, SNAP 25 shRNA Plasmid (m): sc-36516-SH, SNAP 25 shRNA (h) Lentiviral Particles: sc-36517-V and SNAP 25 shRNA (m) Lentiviral Particles: sc-36516-V.

Molecular Weight of SNAP 25: 25 kDa.

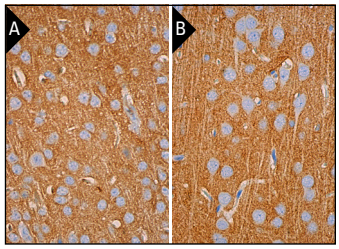
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



SNAP 25 (H-1): sc-376713. Western blot analysis of SNAP 25 expression in PC-12 whole cell lysate (**A**) and rat brain (**B**) and mouse brain (**C**) tissue extracts.



SNAP 25 (H-1): sc-376713. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain (**A**) and rat brain (**B**) tissue showing neuropil staining.

SELECT PRODUCT CITATIONS

1. Sinclair, L.I., et al. 2015. Synaptic protein levels altered in vascular dementia. Neuropathol. Appl. Neurobiol. 41: 533-543.
2. Yim, Y.Y., et al. 2017. Quantitative multiple-reaction monitoring proteomic analysis of G_β and G_γ subunits in C57Bl6/J brain synaptosomes. Biochemistry 56: 5405-5416.
3. Chen, M., et al. 2018. Extracellular anti-angiogenic proteins augment an endosomal protein trafficking pathway to reach mitochondria and execute apoptosis in HUVECs. Cell Death Differ. 25: 1905-1920.
4. Zurawski, Z., et al. 2019. Disabling the $G_{\beta\,\gamma}$-SNARE interaction disrupts GPCR-mediated presynaptic inhibition, leading to physiological and behavioral phenotypes. Sci. Signal. 12: eaat8595.
5. Domise, M., et al. 2019. Neuronal AMP-activated protein kinase hyper-activation induces synaptic loss by an autophagy-mediated process. Cell Death Dis. 10: 221.
6. Lee, J.G., et al. 2019. Buforin-1 blocks neuronal SNARE-mediated membrane fusion by inhibiting SNARE complex assembly. Biochem. Biophys. Res. Commun. 514: 105-111.
7. Bele, S., et al. 2020. MS-275, a class 1 histone deacetylase inhibitor augments glucagon-like peptide-1 receptor agonism to improve glycemic control and reduce obesity in diet-induced obese mice. Elife 9: e52212.
8. Tapella, L., et al. 2021. Deletion of calcineurin from astrocytes reproduces proteome signature of Alzheimer's disease and epilepsy and predisposes to seizures. Cell Calcium 100: 102480.
9. Gomez-Murcia, V., et al. 2022. Impact of chronic doxycycline treatment in the APP/PS1 mouse model of Alzheimer's disease. Neuropharmacology 209: 108999.

RESEARCH USE

For research use only, not for use in diagnostic procedures.