SANTA CRUZ BIOTECHNOLOGY, INC.

SNAP 25 (SP12): sc-20038

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 (SP12) is a mouse monoclonal antibody raised against a crude synaptic preparation from the postmortem human brain.

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 (SP12) is available conjugated to agarose (sc-20038 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-20038 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20038 PE), fluorescein (sc-20038 FITC), Alexa Fluor® 488 (sc-20038 AF488), Alexa Fluor® 546 (sc-20038 AF546), Alexa Fluor® 594 (sc-20038 AF594) or Alexa Fluor® 647 (sc-20038 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-20038 AF680) or Alexa Fluor® 790 (sc-20038 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

SNAP 25 (SP12) is recommended for detection of SNAP 25 of broad species origin by Western Blotting (starting dilution 1:200, 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).

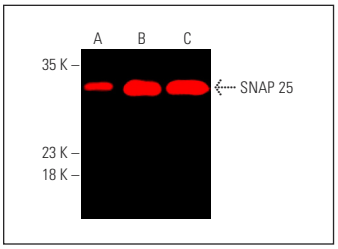
Suitable for use as control antibody for SNAP 25 siRNA (h): sc-36517, SNAP 25 siRNA (m): sc-36516, SNAP 25 shRNA Plasmid (h): sc-36517-SH, SNAP 25 shRNA Plasmid (m): sc-36516-SH, SNAP 25 shRNA (h) Lentiviral Particles: sc-36517-V and SNAP 25 shRNA (m) Lentiviral Particles: sc-36516-V.

Molecular Weight of SNAP 25: 25 kDa.

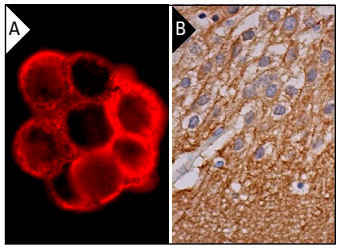
STORAGE

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

DATA



SNAP 25 (SP12): sc-20038. Near-infrared western blot analysis of SNAP 25 expression in SHP-77 whole cell lysate (**A**) and mouse brain (**B**) and rat cerebellum (**C**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



SNAP 25 (SP12): sc-20038. Immunofluorescence staining of methanol-fixed PC-12 cells showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing neuropil staining and cytoplasmic and membrane staining of neuronal cells (**B**).

SELECT PRODUCT CITATIONS

1. Liu, Z., et al. 2005. Rapid activity-driven SNARE-dependent trafficking of nicotinic receptors on somatic spines. J. Neurosci. 25: 1159-1168.
2. Laterza, O.F., et al. 2006. Identification of novel brain biomarkers. Clin. Chem. 52: 1713-1721.
3. Popp R.L., et al. 2006. Characterization of protein kinase C isoforms in primary cultured cerebellar granule cells. Brain Res. 1083: 70-84.
4. Eubanks, L.M., et al. 2007. An *in vitro* and *in vivo* disconnect uncovered through high-throughput identification of botulinum neurotoxin A antagonists. Proc. Natl. Acad. Sci. USA 104: 2602-2607.
5. DeBoer, S.R., et al. 2008. Conventional kinesin holoenzymes are composed of heavy and light chain homodimers. Biochemistry 47: 4535-4543.
6. Zhai, J., et al. 2009. Proteomic characterization of lipid raft proteins in amyotrophic lateral sclerosis mouse spinal cord. FEBS J. 276: 3308-3323.
7. Zou, W., et al. 2012. Identification of differentially expressed proteins in the spinal cord of neuropathic pain models with PKCγ silence by proteomic analysis. Brain Res. 1440: 34-46.
8. Tsukamoto, K., et al. 2012. P19 embryonal carcinoma cells exhibit high sensitivity to botulinum type C and D/C mosaic neurotoxins. Microbiol. Immunol. 56: 664-672.
9. Zhan, S., et al. 2016. Decrease in circulating fatty acids is associated with islet dysfunction in chronically sleep-restricted rats. Int. J. Mol. Sci. 17: 2102.

RESEARCH USE

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