

# Syntaxin 1 (SP8): sc-58299

## BACKGROUND

Correct vesicular transport is essential to the survival of eukaryotic cells. This process is determined by specific pairing of vesicle-associated SNAREs (v-SNAREs) with those on the target membrane (t-SNAREs). This complex then recruits soluble NSF attachment proteins (SNAPs) and N-ethylmaleimide-sensitive factor (NSF) to form the highly stable SNAP receptor (SNARE) complex. The formation of a SNARE complex pulls the vesicle and target membrane together and may provide the energy to drive fusion of the lipid bilayers. SNAPs, including  $\alpha$ - and  $\gamma$ -SNAP, are cytoplasmic proteins that bind to a membrane receptor complex composed of VAMP, SNAP 25 and Syntaxin 1. Syntaxins, including Syntaxin 1, comprise a family of proteins involved in the fusion of synaptic vesicles with the plasma membrane. The Syntaxin family displays broad tissue distribution and contains C-terminal hydrophobic domains that direct them to their respective intracellular compartments.

## CHROMOSOMAL LOCATION

Genetic locus: STX1A (human) mapping to 7q11.23; Stx1a (mouse) mapping to 5 G2.

## SOURCE

Syntaxin 1 (SP8) is a mouse monoclonal antibody raised against a crude synaptic preparation from human postmortem brain.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

Syntaxin 1 (SP8) is recommended for detection of native, denatured and recombinant presynaptic membrane protein Syntaxin 1 (isoform 1A, amino acids 4-190) expressed in bacterial systems of mouse, rat, human and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Syntaxin 1A siRNA (h): sc-44136, Syntaxin 1A siRNA (m): sc-44137, Syntaxin 1A shRNA Plasmid (h): sc-44136-SH, Syntaxin 1A shRNA Plasmid (m): sc-44137-SH, Syntaxin 1A shRNA (h) Lentiviral Particles: sc-44136-V and Syntaxin 1A shRNA (m) Lentiviral Particles: sc-44137-V.

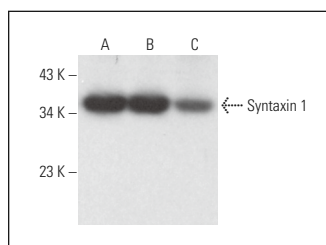
Molecular Weight of Syntaxin 1: 35 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, rat brain extract: sc-2392 or PC-12 cell lysate: sc-2250.

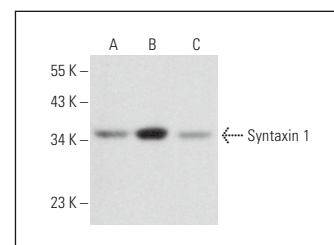
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Syntaxin 1 (SP8): sc-58299. Western blot analysis of Syntaxin 1 expression in rat cerebellum (A), rat brain (B) and mouse brain (C) tissue extracts.



Syntaxin 1 (SP8): sc-58299. Western blot analysis of Syntaxin 1 expression in U-87 MG (A), Neuro-2A (B) and PC-12 (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Djordjevic, A., et al. 2012. Fluoxetine affects hippocampal plasticity, apoptosis and depressive-like behavior of chronically isolated rats. *Prog. Neuropsychopharmacol. Biol. Psychiatry* 36: 92-100.
- Djordjevic, A., et al. 2012. Effects of fluoxetine on plasticity and apoptosis evoked by chronic stress in rat prefrontal cortex. *Eur. J. Pharmacol.* 693: 37-44.
- Ronzitti, G., et al. 2014. Exogenous  $\alpha$ -synuclein decreases raft partitioning of Ca<sub>v</sub>2.2 channels inducing dopamine release. *J. Neurosci.* 34: 10603-10615.
- Grkovic, I., et al. 2016. Expression of ecto-nucleoside triphosphate diphosphohydrolase3 (NTPDase3) in the female rat brain during postnatal development. *J. Chem. Neuroanat.* 77: 10-18.
- Martinovic, J., et al. 2022. Chronic oral d-galactose intake provokes age-related changes in the rat prefrontal cortex. *Behav. Brain Res.* 436: 114072.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **Syntaxin 1 (HPC-1): sc-12736** for Syntaxin 1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.