

# Synaptotagmin I (N-19): sc-7753

## BACKGROUND

Synaptotagmins are a large gene family of synaptic vesicle type III integral membrane proteins that function as regulators of both exocytosis and endocytosis and are involved in neurotransmitter secretion from small secretory vesicles. Calcium binds to Synaptotagmin I which triggers neurotransmitter release at the synapse. Synaptotagmin II is phosphorylated by WNK1 in a process that regulates calcium-dependent interactions. Synaptotagmin III is involved in calcium-dependent exocytosis of secretory vesicles in endocrine cells and neurons. Synaptotagmin IV is expressed in neuronal tissues, and has the highest mRNA levels in the hippocampus. The proximity of the Synaptotagmin IV gene to markers of several psychiatric disorders suggest an involvement of Synaptotagmin IV in human disease. Synaptotagmin V is a dense-core vesicle-specific protein that regulates a specific type of calcium-regulated secretion. Synaptotagmin VI interacts with adaptor protein-2 in a calcium-independent manner. Synaptotagmin VII is widely expressed in non-neuronal tissues.

## CHROMOSOMAL LOCATION

Genetic locus: SYT1 (human) mapping to 12q21.2; Syt1 (mouse) mapping to 10 D1.

## SOURCE

Synaptotagmin I (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Synaptotagmin I of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7753 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Synaptotagmin I (N-19) is recommended for detection of Synaptotagmin I of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Synaptotagmin I (N-19) is also recommended for detection of Synaptotagmin I in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Synaptotagmin I siRNA (h): sc-41310, Synaptotagmin I siRNA (m): sc-41311, Synaptotagmin I shRNA Plasmid (h): sc-41310-SH, Synaptotagmin I shRNA Plasmid (m): sc-41311-SH, Synaptotagmin I shRNA (h) Lentiviral Particles: sc-41310-V and Synaptotagmin I shRNA (m) Lentiviral Particles: sc-41311-V.

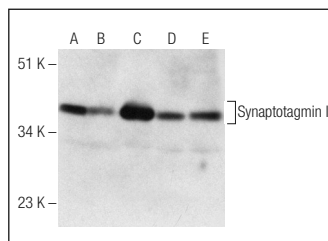
Molecular Weight of Synaptotagmin I: 40/65 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, PC-12 whole cell lysate: sc-2250 or human brain hippocampus extract: sc-364375.

## STORAGE

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

## DATA



Synaptotagmin I (N-19): sc-7753. Western blot analysis of Synaptotagmin I expression in Jurkat (A) and PC-12 (B) whole cell lysates and human hippocampus (C), mouse brain (D) and rat brain (E) tissue extracts.

## SELECT PRODUCT CITATIONS

1. Basso, K., et al. 2004. Gene expression profiling of hairy cell leukemia reveals a phenotype related to memory B cells with altered expression of chemokine and adhesion receptors. *J. Exp. Med.* 199: 59-68.
2. Laterza, O.F., et al. 2006. Identification of novel brain biomarkers. *Clin. Chem.* 52: 1713-1721.
3. Perry, M.M., et al. 2008. Rapid changes in microRNA-146α expression negatively regulate the IL-1β-induced inflammatory response in human lung alveolar epithelial cells. *J. Immunol.* 180: 5689-5698.
4. Han, C., et al. 2009. Human SCAMP5, a novel secretory carrier membrane protein, facilitates calcium-triggered cytokine secretion by interaction with SNARE machinery. *J. Immunol.* 182: 2986-2996.
5. Xiao, Z., et al. 2009. Altered expression of Synaptotagmin I in temporal lobe tissue of patients with refractory epilepsy. *J. Mol. Neurosci.* 38: 193-200.

## RESEARCH USE

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

## PROTOCOLS

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



Try **Synaptotagmin I (15): sc-136480** or **Synaptotagmin I (41): sc-136088**, our highly recommended monoclonal alternatives to Synaptotagmin I (N-19).