

Synaptotagmin V (46): sc-136090

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.

REFERENCES

- Hilbush, B.S. and Morgan, J.I. 1994. A third Synaptotagmin gene, Syt3, in the mouse. *Proc. Natl. Acad. Sci. USA* 91: 8195-8199.
- Li, C., et al. 1995. Ca²⁺-dependent and -independent activities of neural and non-neural synaptotagmins. *Nature* 375: 594-599.
- Kishore, B.K., et al. 1998. Expression of Synaptotagmin VIII in rat kidney. *Am. J. Physiol.* 275: 131-142.
- Xi, D., et al. 1999. Analysis of Synaptotagmin I-IV messenger RNA expression and developmental regulation in the rat hypothalamus and pituitary. *Neuroscience* 88: 425-435.
- Ferguson, G.D., et al. 2000. The human Synaptotagmin IV gene defines an evolutionary break point between syntenic mouse and human chromosome regions but retains ligand inducibility and tissue specificity. *J. Biol. Chem.* 275: 36920-3696.
- LocusLink Report (LocusID: 6860). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Syt5 (mouse) mapping to 7 A1.

SOURCE

Synaptotagmin V (46) is a mouse monoclonal antibody raised against amino acids 15-110 of Synaptotagmin V of rat origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

STORAGE

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

APPLICATIONS

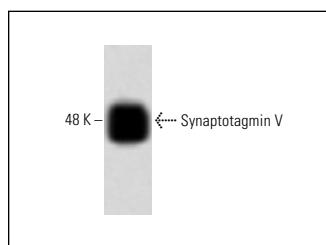
Synaptotagmin V (46) is recommended for detection of Synaptotagmin V of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Synaptotagmin V siRNA (m): sc-41319, Synaptotagmin V siRNA (r): sc-270041, Synaptotagmin V shRNA Plasmid (m): sc-41319-SH, Synaptotagmin V shRNA Plasmid (r): sc-270041-SH, Synaptotagmin V shRNA (m) Lentiviral Particles: sc-41319-V and Synaptotagmin V shRNA (r) Lentiviral Particles: sc-270041-V.

Molecular Weight of Synaptotagmin V: 48 kDa.

Positive Controls: rat brain extract: sc-2392 or rat cerebrum tissue extract.

DATA



Synaptotagmin V (46): sc-136090. Western blot analysis of Synaptotagmin V expression in rat cerebrum tissue extract.

SELECT PRODUCT CITATIONS

- Ohta, Y., et al. 2016. Sex-dependent effects of chromogranin B P413L allelic variant as disease modifier in amyotrophic lateral sclerosis. *Hum. Mol. Genet.* 25: 4771-4786.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.