

# Synaptotagmin VI (A-5): sc-390320

## 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

1. Hilbush, B.S. and Morgan, J.I. 1994. A third Synaptotagmin gene, Syt3, in the mouse. *Proc. Natl. Acad. Sci. USA* 91: 8195-8199.
2. Li, C., et al. 1995. Ca<sup>2+</sup>-dependent and -independent activities of neural and non-neural synaptotagmins. *Nature* 375: 594-599.
3. Kishore, B.K., et al. 1998 Expression of Synaptotagmin VIII in rat kidney. *Am. J. Physiol.* 275: F131-F142.
4. 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.

## CHROMOSOMAL LOCATION

Genetic locus: SYT6 (human) mapping to 1p13.2.

## SOURCE

Synaptotagmin VI (A-5) is a mouse monoclonal antibody raised against amino acids 84-137 mapping near the N-terminus of Synaptotagmin VI of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Synaptotagmin VI (A-5) is available conjugated to agarose (sc-390320 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390320 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390320 PE), fluorescein (sc-390320 FITC), Alexa Fluor® 488 (sc-390320 AF488), Alexa Fluor® 546 (sc-390320 AF546), Alexa Fluor® 594 (sc-390320 AF594) or Alexa Fluor® 647 (sc-390320 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390320 AF680) or Alexa Fluor® 790 (sc-390320 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

Synaptotagmin VI (A-5) is recommended for detection of Synaptotagmin VI of 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).

Suitable for use as control antibody for Synaptotagmin VI siRNA (h): sc-76618, Synaptotagmin VI shRNA Plasmid (h): sc-76618-SH and Synaptotagmin VI shRNA (h) Lentiviral Particles: sc-76618-V.

Molecular Weight (predicted) of Synaptotagmin VI isoforms 1/2: 57/48 kDa.

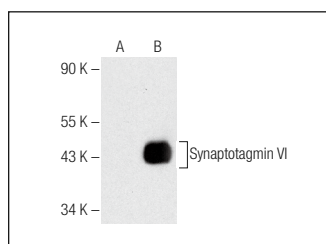
Molecular Weight (observed) of Synaptotagmin VI: 74 kDa.

Positive Controls: Synaptotagmin VI (h): 293T Lysate: sc-115895.

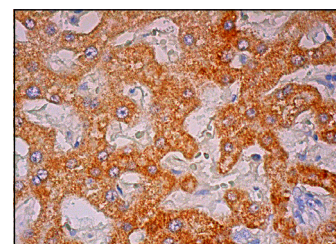
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Synaptotagmin VI (A-5): sc-390320. Western blot analysis of Synaptotagmin VI expression in non-transfected: sc-117752 (A) and human Synaptotagmin VI transfected: sc-115895 (B) 293T whole cell lysates.



Synaptotagmin VI (A-5): sc-390320. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

## STORAGE

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

## PROTOCOLS

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

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