SANTA CRUZ BIOTECHNOLOGY, INC.

Synaptotagmin XVI (Y-14): sc-244243

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Synaptotagmin XVI, also known as SYT16, Chr14Syt, STREP14, or Synaptotagmin XIV-related protein (SYT14L), is a 645 amino acid homodimeric protein belonging to the Synaptotagmin family. Synaptotagmin XVI contains two C2 domains, which binds liposomes consisting of phosphatidylcholine and phosphatidylserine, but lacks the N-terminal transmembrane domain present in other Synaptotagmins. Expressed in brain, heart, and testis, Synaptotagmin XVI may be involved in Ca^{2+} independent trafficking and exocytosis of secretory vesicles in non-neuronal tissues. Existing as three alternatively spliced isoforms, the gene encoding Synaptotagmin XVI maps to human chromosome 14q23.2.

REFERENCES

1. Craxton, M. 2001. Genomic analysis of synaptotagmin genes. Genomics 77: 43-49.
2. Fukuda, M. 2003. Molecular cloning, expression, and characterization of a novel class of synaptotagmin (Syt XIV) conserved from *Drosophila* to humans. J. Biochem. 133: 641-649.
3. Heilig, R., et al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.
4. Craxton, M. 2004. Synaptotagmin gene content of the sequenced genomes. BMC Genomics 5: 43.
5. Montes, M., et al. 2006. Purification, crystallization and X-ray diffraction analysis of human synaptotagmin 1 C2A-C2B. Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun. 62: 926-929.
6. Wan, C., et al. 2011. Partitioning of Synaptotagmin I C2 domains between liquid-ordered and liquid-disordered inner leaflet lipid phases. Biochemistry 50: 2478-2485.

CHROMOSOMAL LOCATION

Genetic locus: SYT16 (human) mapping to 14q23.2; Syt16 (mouse) mapping to 12 C3.

SOURCE

Synaptotagmin XVI (Y-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Synaptotagmin XVI 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-244243 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Synaptotagmin XVI (Y-14) is recommended for detection of Synaptotagmin XVI 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); non cross-reactive with other Synaptotagmin family members.

Synaptotagmin XVI (Y-14) is also recommended for detection of Synaptotagmin XVI in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Synaptotagmin XVI siRNA (h): sc-92383, Synaptotagmin XVI siRNA (m): sc-153982, Synaptotagmin XVI shRNA Plasmid (h): sc-92383-SH, Synaptotagmin XVI shRNA Plasmid (m): sc-153982-SH, Synaptotagmin XVI shRNA (h) Lentiviral Particles: sc-92383-V and Synaptotagmin XVI shRNA (m) Lentiviral Particles: sc-153982-V.

Molecular Weight of Synaptotagmin XVI isoform 1: 72 kDa.

Molecular Weight of Synaptotagmin XVI isoform 2: 70 kDa.

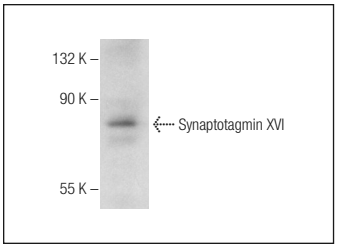
Molecular Weight of Synaptotagmin XVI isoform 3: 23 kDa.

Positive Controls: Rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Synaptotagmin XVI (Y-14): sc-244243. Western blot analysis of Synaptotagmin XVI expression in rat brain tissue extract.

STORAGE

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