

Synaptotagmin XIV (P-14): sc-165629

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 XIV, also known as SytXIV, is a 555 amino acid single-pass type III membrane protein belonging to the Synaptotagmin family. With the ability to form heterodimers, Synaptotagmin XIV mainly exists as a homodimer and contains two C2 domains, an N-terminal transmembrane domain and a putative fatty-acylation site. Synaptotagmin XIV is Ca²⁺-independent and may function in the trafficking and exocytosis of secretory vesicles to tissues outside the brain. Disruption of Synaptotagmin XIV may be affiliated with neurodevelopmental abnormalities. Synaptotagmin XIV exists as six alternatively spliced isoforms and is encoded by a gene on human chromosome 1q32.2.

REFERENCES

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4. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.
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6. Yoshihara, M., et al. 2010. Differential regulation of synchronous versus asynchronous neurotransmitter release by the C2 domains of synaptotagmin 1. *Proc. Natl. Acad. Sci. USA* 107: 14869-14874.
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8. Sasakawa, N., et al. 2011. Dissociation of inositol polyphosphates from the C2B domain of synaptotagmin facilitates spontaneous release of catecholamines in adrenal chromaffin cells. A suggestive evidence of a fusion clamp by synaptotagmin. *Neuropharmacology* 60: 1364-1370.

CHROMOSOMAL LOCATION

Genetic locus: SYT14 (human) mapping to 1q32.2; Syt14 (mouse) mapping to 1 H6.

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.

SOURCE

Synaptotagmin XIV (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of Synaptotagmin XIV 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-165629 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Synaptotagmin XIV (P-14) is recommended for detection of Synaptotagmin XIV of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 XIV (P-14) is also recommended for detection of Synaptotagmin XIV in additional species, including canine, bovine and avian.

Suitable for use as control antibody for Synaptotagmin XIV siRNA (h): sc-88074, Synaptotagmin XIV siRNA (m): sc-153980, Synaptotagmin XIV shRNA Plasmid (h): sc-88074-SH, Synaptotagmin XIV shRNA Plasmid (m): sc-153980-SH, Synaptotagmin XIV shRNA (h) Lentiviral Particles: sc-88074-V and Synaptotagmin XIV shRNA (m) Lentiviral Particles: sc-153980-V.

Molecular Weight of Synaptotagmin XIV isoforms 1/2/3/4: 62/51/58/30 kDa.

Molecular Weight of Synaptotagmin XIV isoforms 5/6: 65/64 kDa.

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) 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.

PROTOCOLS

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