

Synaptotagmin XI (T-15): sc-162281

BACKGROUND

Synaptotagmins are a large 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 XI, also known as SYT11 (Synaptotagmin-11), is a 431 amino acid protein that localizes to the membrane and is expressed ubiquitously with highest expression in brain and lung. Like other Synaptotagmin proteins, Synaptotagmin XI is involved in the calcium-dependent exocytosis of secretory vesicles and is thought to act as a calcium sensor during vesicular trafficking. Synaptotagmin XI contains two C2 domains through which it can bind either three calcium ions or the zinc-finger protein Parkin (a juvenile Parkinson's disease gene product), the latter of which causes the polyubiquitination and subsequent degradation of Synaptotagmin XI by the proteasome complex. Defects in the gene encoding Synaptotagmin XI are implicated in a number of neurological disorders, including schizophrenia and Parkinson's disease.

REFERENCES

1. von Poser, C., Ichtchenko, K., Shao, X., Rizo, J. and Südhof, T.C. 1997. The evolutionary pressure to inactivate. A subclass of synaptotagmins with an amino acid substitution that abolishes Ca²⁺ binding. *J. Biol. Chem.* 272: 14314-14319.
2. Mizutani, A., Fukuda, M., Iyata, K., Shiraishi, Y. and Mikoshiba, K. 2000. SYNCRIP, a cytoplasmic counterpart of heterogeneous nuclear ribonucleoprotein R, interacts with ubiquitous synaptotagmin isoforms. *J. Biol. Chem.* 275: 9823-9831.
3. Craxton, M. 2001. Genomic analysis of synaptotagmin genes. *Genomics* 77: 43-49.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608741. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Huynh, D.P., Scoles, D.R., Nguyen, D. and Pulst, S.M. 2003. The autosomal recessive juvenile Parkinson disease gene product, Parkin, interacts with and ubiquitinates Synaptotagmin XI. *Hum. Mol. Genet.* 12: 2587-2597.
6. Glass, A.S., Huynh, D.P., Franck, T., Woitalla, D., Müller, T., Pulst, S.M., Berg, D., Krüger, R. and Riess, O. 2004. Screening for mutations in Synaptotagmin XI in Parkinson's disease. *J. Neural Transm. Suppl.* 68: 21-28.

CHROMOSOMAL LOCATION

Genetic locus: SYT11 (human) mapping to 1q22; Syt11 (mouse) mapping to 3 F1.

SOURCE

Synaptotagmin XI (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of Synaptotagmin XI of human origin.

STORAGE

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

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-162281 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Synaptotagmin XI (T-15) is recommended for detection of Synaptotagmin XI 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 XI (T-15) is also recommended for detection of Synaptotagmin XI in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Synaptotagmin XI siRNA (h): sc-88813, Synaptotagmin XI siRNA (m): sc-153977, Synaptotagmin XI shRNA Plasmid (h): sc-88813-SH, Synaptotagmin XI shRNA Plasmid (m): sc-153977-SH, Synaptotagmin XI shRNA (h) Lentiviral Particles: sc-88813-V and Synaptotagmin XI shRNA (m) Lentiviral Particles: sc-153977-V.

Molecular Weight of Synaptotagmin XI monomer: 64 kDa.

Molecular Weight of Synaptotagmin XI homodimer: 110 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or mouse brain extract: sc-2253.

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.

RESEARCH USE

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



Try **Synaptotagmin XI (D-5): sc-365991** or **Synaptotagmin XI (H-7): sc-515632**, our highly recommended monoclonal alternatives to Synaptotagmin XI (T-15).