

Synaptotagmin XI (N-15): sc-162280

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., et al. 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., et al. 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., et al. 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., et al. 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 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Synaptotagmin XI 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-162280 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

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

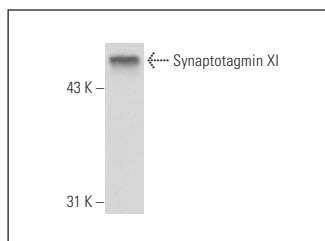
Suitable for use as control antibody for Synaptotagmin XI siRNA (h): sc-88813, Synaptotagmin XI siRNA (m): sc-153977, Synaptotagmin XI shRNA Plasmid (h): sc-88813-SH, Synaptotagmin XI shRNA Plasmid (m): sc-153977-SH, Synaptotagmin XI shRNA (h) Lentiviral Particles: sc-88813-V and Synaptotagmin XI shRNA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

Molecular Weight of Synaptotagmin XI monomer: 64 kDa.

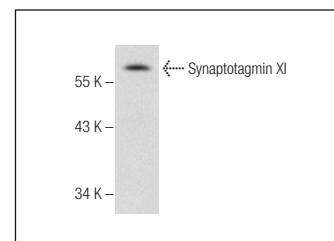
Molecular Weight of Synaptotagmin XI homodimer: 110 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

DATA



Synaptotagmin XI (N-15): sc-162280. Western blot analysis of Synaptotagmin XI expression in mouse brain tissue extract.



Synaptotagmin XI (N-15): sc-162280. Western blot analysis of Synaptotagmin XI 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.

RESEARCH USE

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

PROTOCOLS

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



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