

Tomosyn (P-16): sc-79288

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. Tomosyn, also known as STXBP5 (syntaxin binding protein 5), LLGL3 or LGL3, is a 1,151 amino acid protein that localizes to the cytoplasm, as well as to the cell junction, secretory vesicles and to the peripheral membrane and contains one v-SNARE coiled-coil homology domain and 14 WD repeats. Interacting with Syntaxin 1 and Syntaxin 1B, Tomosyn functions as a regulator of neurotransmitter release and calcium-dependent exocytosis. Additionally, Tomosyn inhibits membrane fusion and may play a role in the assembly of SNARE complexes between transport vesicles and the plasma membrane. Multiple isoforms of Tomosyn exist due to alternative splicing events.

REFERENCES

1. van der Voorn, L. and Ploegh, H.L. 1992. The WD-40 repeat. *FEBS Lett.* 307: 131-134.
2. Fujita, Y., Shirataki, H., Sakisaka, T., Asakura, T., Ohya, T., Kotani, H., Yokoyama, S., Nishioka, H., Matsuura, Y., Mizoguchi, A., Scheller, R.H. and Takai, Y. 1998. Tomosyn: a Syntaxin 1-binding protein that forms a novel complex in the neurotransmitter release process. *Neuron* 20: 905-915.
3. Yokoyama, S., Shirataki, H., Sakisaka, T. and Takai, Y. 1999. Three splicing variants of Tomosyn and identification of their Syntaxin-binding region. *Biochem. Biophys. Res. Commun.* 256: 218-222.
4. Smith, T.F., Gaitatzes, C., Saxena, K. and Neer, E.J. 1999. The WD repeat: a common architecture for diverse functions. *Trends Biochem. Sci.* 24: 181-185.
5. Widberg, C.H., Bryant, N.J., Girotti, M., Rea, S. and James, D.E. 2003. Tomosyn interacts with the t-SNAREs Syntaxin 4 and SNAP23 and plays a role in Insulin-stimulated GLUT4 translocation. *J. Biol. Chem.* 278: 35093-35101.
6. Katoh, M. and Katoh, M. 2004. Identification and characterization of human LLGL4 gene and mouse Llg4 gene in silico. *Int. J. Oncol.* 24: 737-742.
7. Yizhar, O., Matti, U., Melamed, R., Hagalili, Y., Bruns, D., Rettig, J. and Ashery, U. 2004. Tomosyn inhibits priming of large dense-core vesicles in a calcium-dependent manner. *Proc. Natl. Acad. Sci. USA* 101: 2578-2583.
8. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 604586. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: STXBP5 (human) mapping to 6q24.3; Stxbp5 (mouse) mapping to 10 A1.

SOURCE

Tomosyn (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Tomosyn 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-79288 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Tomosyn (P-16) is recommended for detection of Tomosyn 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).

Tomosyn (P-16) is also recommended for detection of Tomosyn in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Tomosyn siRNA (h): sc-76713, Tomosyn siRNA (m): sc-76714, Tomosyn shRNA Plasmid (h): sc-76713-SH, Tomosyn shRNA Plasmid (m): sc-76714-SH, Tomosyn shRNA (h) Lentiviral Particles: sc-76713-V and Tomosyn shRNA (m) Lentiviral Particles: sc-76714-V.

Molecular Weight of Tomosyn: 130 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.

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.