

# Syntaxin 4 (E-18): sc-14454

## BACKGROUND

Correct vesicular transport is essential to the survival of eukaryotic cells. This process is determined by specific pairing of vesicle-associated SNAREs (v-SNAREs) with those on the target membrane (t-SNAREs). This complex then recruits soluble NSF attachment proteins (SNAPs) and N-ethylmaleimide-sensitive factor (NSF) to form the highly stable SNAP receptor (SNARE) complex. The formation of a SNARE complex pulls the vesicle and target membrane together and may provide the energy to drive fusion of the lipid bilayers. Syntaxins, a family of proteins involved in the fusion of synaptic vesicles with the plasma membrane, display broad tissue distribution and contain carboxy-terminal hydrophobic domains that direct themselves to their respective intracellular compartments. Syntaxin 4 is crucial for normal Insulin-stimulated glucose uptake in skeletal muscle and decreases in Syntaxin 4 protein levels result in reduction of whole-body Insulin-stimulated glucose metabolism.

## REFERENCES

- Bennett, M.K., et al. 1993. The syntaxin family of vesicular transport receptors. *Cell* 74: 863-873.
- Nagahama, M., et al. 1996. A v-SNARE implicated in intra-Golgi transport. *J. Cell Biol.* 133: 507-516.
- Lowe, S.L., et al. 1997. A SNARE involved in protein transport through the Golgi apparatus. *Nature* 389: 881-884.
- Bentz, J. and Mittal, A. 2000. Deployment of membrane fusion protein domains during fusion. *Cell Biol. Int.* 24: 819-838.
- Watson, R.T. and Pessin, J.E. 2001. Transmembrane domain length determines intracellular membrane compartment localization of syntaxins 3, 4, and 5. *Am. J. Physiol. Cell Physiol.* 281: C215-223.

## CHROMOSOMAL LOCATION

Genetic locus: STX4A (human) mapping to 16p11.2; Stx4a (mouse) mapping to 7 F4.

## SOURCE

Syntaxin 4 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Syntaxin 4 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-14454 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

Syntaxin 4 (E-18) is recommended for detection of Syntaxin 4 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).

Syntaxin 4 (E-18) is also recommended for detection of syntaxin 4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Syntaxin 4 siRNA (h): sc-36590, Syntaxin 4 siRNA (m): sc-36591, Syntaxin 4 shRNA Plasmid (h): sc-36590-SH, Syntaxin 4 shRNA Plasmid (m): sc-36591-SH, Syntaxin 4 shRNA (h) Lentiviral Particles: sc-36590-V and Syntaxin 4 shRNA (m) Lentiviral Particles: sc-36591-V.

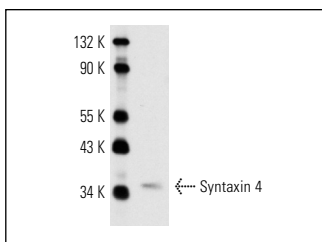
Molecular Weight of Syntaxin 4: 34 kDa.

Positive Controls: JAR cell lysate: sc-2276 or MM-142 cell lysate: sc-2246.

## 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



Syntaxin 4 (E-18): sc-14454. Western blot analysis of Syntaxin 4 expression in JAR whole cell lysate.

## RESEARCH USE

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

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Try **Syntaxin 4 (QQ-17): sc-101301**, our highly recommended monoclonal alternative to Syntaxin 4 (E-18).