

# Syntaxin 4 (H-16): sc-14455

## 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-C223.
- Yang, C., et al. 2001. Syntaxin 4 heterozygous knockout mice develop muscle Insulin resistance. *J. Clin. Invest.* 107: 1311-1318.

## CHROMOSOMAL LOCATION

Genetic locus: STX4 (human) mapping to 16p11.2; Stx4a (mouse) mapping to 7 F3.

## SOURCE

Syntaxin 4 (H-16) 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-14455 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.

## APPLICATIONS

Syntaxin 4 (H-16) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

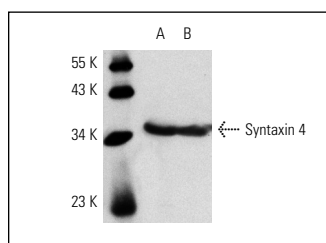
Syntaxin 4 (H-16) is also recommended for detection of syntaxin 4 in additional species, including equine, canine, bovine and porcine.

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.

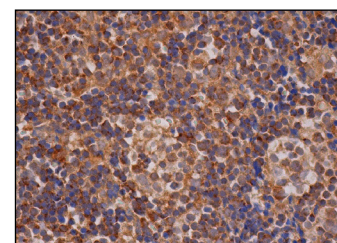
Molecular Weight of Syntaxin 4: 34 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, MM-142 cell lysate: sc-2246 or JAR cell lysate: sc-2276.

## DATA



Syntaxin 4 (H-16): sc-14455. Western blot analysis of Syntaxin 4 expression in PC-12 (A) and MM-142 (B) whole cell lysates.



Syntaxin 4 (H-16): sc-14455. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal and non-germinal centers.

## SELECT PRODUCT CITATIONS

- Frøsig, C., et al. 2007. Effects of endurance exercise training on Insulin signaling in human skeletal muscle: interactions at the level of phosphatidylinositol 3-kinase, Akt, and AS160. *Diabetes* 56: 2093-2102.
- Gillitzer, A., et al. 2008. Effect of dominant negative SNAP-23 expression on platelet function. *J. Thromb. Haemost.* 6: 1757-1763.

## RESEARCH USE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **Syntaxin 4 (QQ-17): sc-101301**, our highly recommended monoclonal alternative to Syntaxin 4 (H-16).