

# Slp5 (D-12): sc-241674

## BACKGROUND

Synaptotagmin genes encode 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. Slp5 (Synaptotagmin-like protein 5), also known as SYTL5, is a 730 amino acid peripheral membrane protein that contains one Rab binding domain, one FYVE-type zinc finger and two C2 domains. Highly expressed in liver and placenta, Slp5 is thought to act as a Rab effector protein that, similar to Synaptotagmins, may play a role in vesicle trafficking. Slp5 preferentially interacts with the GTP-bound form of Rab27a and marginally interacts with Rab3A and Rab6A, but not with other Rab proteins. It is thought that Rab27a may play a role in cystic fibrosis pathogenesis by inhibiting CFTR channel activity. Slp5 limits Rab27a availability to CFTR, therefore minimizing its effect on channel function. This suggests that Slp5 may be a potential target for cystic fibrosis therapy.

## REFERENCES

1. Kuroda, T.S., et al. 2002. Synaptotagmin-like protein 5: a novel Rab27A effector with C-terminal tandem C2 domains. *Biochem. Biophys. Res. Commun.* 293: 899-906.
2. Kuroda, T.S., et al. 2002. The Slp homology domain of synaptotagmin-like proteins 1-4 and Slac2 functions as a novel Rab27A binding domain. *J. Biol. Chem.* 277: 9212-9218.
3. Saxena, S.K., et al. 2006. Rab27a regulates epithelial sodium channel (ENaC) activity through synaptotagmin-like protein (SLP-5) and Munc13-4 effector mechanism. *Biochem. Biophys. Res. Commun.* 344: 651-657.
4. Saxena, S.K. and Kaur, S. 2006. Rab27a negatively regulates CFTR chloride channel function in colonic epithelia: involvement of the effector proteins in the regulatory mechanism. *Biochem. Biophys. Res. Commun.* 346: 259-267.
5. Tsuboi, T. and Fukuda, M. 2006. The Slp4-a linker domain controls exocytosis through interaction with Munc18-1.syntaxin-1a complex. *Mol. Biol. Cell* 17: 2101-2112.
6. Holt, O., et al. 2008. Slp1 and Slp2-a localize to the plasma membrane of CTL and contribute to secretion from the immunological synapse. *Traffic* 9: 446-457.
7. Wright, P.K., et al. 2009. Estrogen regulates vesicle trafficking gene expression in EFF-3, EFM-19 and MCF-7 breast cancer cells. *Int. J. Clin. Exp. Pathol.* 2: 463-475.
8. Colvin, R.A., et al. 2010. Synaptotagmin-mediated vesicle fusion regulates cell migration. *Nat. Immunol.* 11: 495-502.

## CHROMOSOMAL LOCATION

Genetic locus: SYTL5 (human) mapping to Xp11.4; Sytl5 (mouse) mapping to X A1.1.

## SOURCE

Slp5 (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Slp5 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-241674 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Slp5 (D-12) is recommended for detection of Slp5 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 Slp family members.

Suitable for use as control antibody for Slp5 siRNA (h): sc-91313, Slp5 siRNA (m): sc-153606, Slp5 shRNA Plasmid (h): sc-91313-SH, Slp5 shRNA Plasmid (m): sc-153606-SH, Slp5 shRNA (h) Lentiviral Particles: sc-91313-V and Slp5 shRNA (m) Lentiviral Particles: sc-153606-V.

Molecular Weight of Slp5: 82 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](http://www.scbt.com) or our catalog for detailed protocols and support products.