

**BACKGROUND**

The calcium-dependent plasma membrane protein phospholipid scramblase 1 (PLSCR1) contributes to the transbilayer movement of phosphatidylserine and other membrane phospholipids upon influx of calcium into the cytosol. This movement results in plasma membrane phospholipid remodelling and surface exposure of phosphatidylserine in injured or apoptotic cells, which leads to cell death. Interferons and other cytokines induce expression of PLSCR1, implying that PLSCR1 also functions in cytokine signaling pathways. EGF stimulation results in tyrosine phosphorylation of PLSCR1 on tyrosines 69 and 74, which allows it to interact with Shc, and thereby connecting Src kinase activation to stimulation of the EGF receptor.

REFERENCES

1. Wiedmer, T., et al. 2003. Palmitoylation of phospholipid scramblase 1 controls its distribution between nucleus and plasma membrane. *Biochem.* 42: 1227-1233.
2. Rami, A., et al. 2003. Spatial resolution of phospholipid scramblase 1 (PLSCR1), caspase-3 activation and DNA-fragmentation in the human hippocampus after cerebral ischemia. *Neurochem. Int.* 43: 79-87.
3. Nanjundan, M., et al. 2003. Plasma membrane phospholipid scramblase 1 promotes EGF-dependent activation of c-Src through the epidermal growth factor receptor. *J. Biol. Chem.* 278: 37413-3748.
4. Chen, M.H., et al. 2004. Phospholipid scramblase 1 (PLSCR1) contains a non-classical nuclear localization signal with unique binding site in importin α . *J. Biol. Chem.* [Epub ahead of print].
5. Dong, B., et al. 2004. Phospholipid scramblase 1 potentiates the antiviral activity of interferon. *J. Virol.* 78: 8983-8993.
6. Zhao, K.W., et al. 2004. Protein kinase C δ mediates retinoic acid and phorbol myristate acetate-induced phospholipid scramblase 1 gene expression: its role in leukemic cell differentiation. *Blood* 104: 3731-3738.
7. Ben-Efraim, I., et al. 2004. Phospholipid scramblase 1 is imported into the nucleus by a receptor-mediated pathway and interacts with DNA. *Biochem.* 43: 3518-3526.

SOURCE

PLSCR1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of Phospholipid scramblase 1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27779 P, (100 μ g 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

PLSCR1 (N-17) is recommended for detection of PLSCR1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

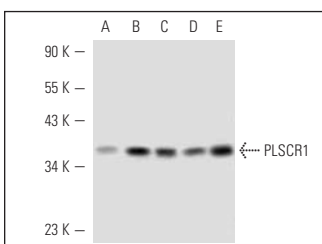
Suitable for use as control antibody for PLSCR1 siRNA (h): sc-44028.

Molecular Weight of PLSCR1: 37 kDa.

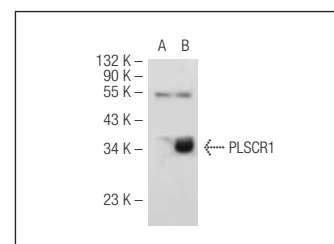
Positive Controls: K-562 whole cell lysate: sc-2203, Hep G2 cell lysate: sc-2227 or human hippocampus.

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

PLSCR1 (N-17): sc-27779. Western blot analysis of PLSCR1 expression in K-562 (A), Hep G2 (B), A549 (C), WI 38 (D) and SHP-77 (E) whole cell lysates.



PLSCR1 (N-17): sc-27779. Western blot analysis of PLSCR1 expression in non-transfected: sc-117752 (A) and human PLSCR1 transfected: sc-115227 (B) 293T whole cell lysates.

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.