SANTA CRUZ BIOTECHNOLOGY, INC.

# PLSCR1 (1E9): sc-59645

## 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 remodeling 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 stilmulation results in tyrosine phosphorylation of PLSCR1 on Tyrosines 69 and 74, which allows it to interact with Shc, 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. Biochemistry 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: 37413-37418.


## CHROMOSOMAL LOCATION

Genetic locus: PLSCR1 (human) mapping to 3q24.

## SOURCE

PLSCR1 (1E9) is a mouse monoclonal antibody raised against synthetic peptide PLSCR1 of human origin.

## PRODUCT

Each vial contains 50 µg $IgG_1$ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

## STORAGE

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

## APPLICATIONS

PLSCR1 (1E9) is recommended for detection of PLSCR1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PLSCR1 siRNA (h): sc-44028, PLSCR1 shRNA Plasmid (h): sc-44028-SH and PLSCR1 shRNA (h) Lentiviral Particles: sc-44028-V.

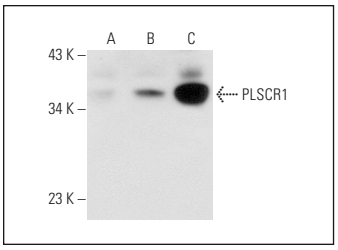
Molecular Weight of PLSCR1: 37 kDa.

Positive Controls: PLSCR1 (h3): 293T Lysate: sc-172101, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

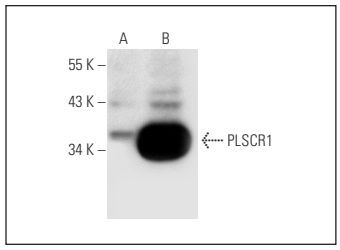
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA




PLSCR1 (1E9): sc-59645. Western blot analysis of PLSCR1 expression in non-transfected 293T: sc-117752 (**A**), human PLSCR1 transfected 293T: sc-172101 (**B**) and K-562 (**C**) whole cell lysates.




PLSCR1 (1E9): sc-59645. Western blot analysis of PLSCR1 expression in non-transfected: sc-117752 (**A**) and human PLSCR1 transfected: sc-115227 (**B**) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Kodigepalli, K.M. and Nanjundan, M. 2015. Induction of PLSCR1 in a STING/IRF3-dependent manner upon vector transfection in ovarian epithelial cells. PLoS ONE 10: e0117464.
2. Francis, V.G. and Gummadi, S.N. 2015. Biochemical evidence for $Ca^{2+}$-independent functional activation of hPLSCR1 at low pH. Cell. Mol. Biol. Lett. 20: 177-195.
3. Sivagnanam, U., et al. 2016. Identification and characterization of the novel nuclease activity of human phospholipid scramblase 1. BMC Biochem. 17: 10.
4. Palanirajan, S.K. and Gummadi, S.N. 2018. Rapid method for an enhanced recovery of biologically active human phospholipid scramblase1 from inclusion bodies. Anal. Biochem. 556: 104-111.
5. Liao, L., et al. 2018. Multiple tumor suppressors regulate a HIF-dependent negative feedback loop via ISGF3 in human clear cell renal cancer. Elife 7: e37925.
6. Koyiloth, M., et al. 2022. Interaction of human phospholipid scramblase 1 with cholesterol via CRAC motif is essential for functional regulation and subcellular localization. Int. J. Biol. Macromol. 209: 850-857.
7. Langbein, L.E., et al. 2022. BAP1 maintains HIF-dependent interferon β induction to suppress tumor growth in clear cell renal cell carcinoma. Cancer Lett. 547: 215885.
8. Langbein, L.E., et al. 2022. Data supporting the roles of BAP1, STING, and IFN-β in ISGF3 activation in ccRCC. Data Brief 45: 108743.


## RESEARCH USE

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