SANTA CRUZ BIOTECHNOLOGY, INC.

PLSCR3 (SQ-9): sc-100808

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The calcium-dependent mitochondrial membrane protein PLSCR3 (phospholipid scramblase 3), also known as PLS3, is a member of the phospholipid scramblase (PLS) family. The PLS family consists of membrane-bound enzymes that participate in the bi-directional movement of phospholipids. PLSCR3 is expressed in a wide variety of tissues but is not found in brain, liver or testis. It is involved in the regulation of mitochondrial respiratory function, morphology and apoptotic responses. More specifically, PLSCR3 is responsible for mediating the transport of cardiolipin from the inner mitochondrial membrane to the outer mitochondrial membrane. Cardiolipin is a major polyglycerophospholipid that plays a role in the regulation of mitochondrial enzymes involved in the generation of ATP. PLSCR3 activity is activated/phosphorylated by PKC δ and PLSCR3 functions as a downstream effector in PKC δ-induced apoptosis.

REFERENCES

1. Wiedmer, T., et al. 2000. Identification of three new members of the phospholipid scramblase gene family. Biochim. Biophys. Acta 1467: 244-253.
2. Liu, J., et al. 2003. Phospholipid scramblase 3 controls mitochondrial structure, function, and apoptotic response. Mol. Cancer Res. 1: 892-902.
3. Liu, J., et al. 2003. Phospholipid scramblase 3 is the mitochondrial target of protein kinase C δ-induced apoptosis. Cancer Res. 63: 1153-1156.
4. Wiedmer, T., et al. 2004. Adiposity, dyslipidemia, and Insulin resistance in mice with targeted deletion of phospholipid scramblase 3 (PLSCR3). Proc. Natl. Acad. Sci. USA 101: 13296-13301.
5. He, Y., et al. 2005. N-benzyladriamycin-14-valerate (AD198) induces apoptosis through protein kinase C-δ-induced phosphorylation of phospholipid scramblase 3. Cancer Res. 65: 10016-10023.
6. Phillippe, M., et al. 2006. Phospholipid scramblase isoform expression in pregnant rat uterus. J. Soc. Gynecol. Investig. 13: 497-501.

CHROMOSOMAL LOCATION

Genetic locus: PLSCR3 (human) mapping to 17p13.1; Plscr3 (mouse) mapping to 11 B3.

SOURCE

PLSCR3 (SQ-9) is a mouse monoclonal antibody raised against recombinant PLSCR3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

PLSCR3 (SQ-9) is recommended for detection of PLSCR3 of mouse 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PLSCR3 siRNA (h): sc-62828, PLSCR3 siRNA (m): sc-62829, PLSCR3 shRNA Plasmid (h): sc-62828-SH, PLSCR3 shRNA Plasmid (m): sc-62829-SH, PLSCR3 shRNA (h) Lentiviral Particles: sc-62828-V and PLSCR3 shRNA (m) Lentiviral Particles: sc-62829-V.

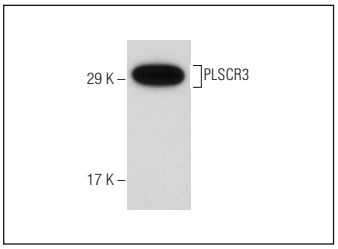
Molecular Weight of PLSCR3: 32 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, 3T3-L1 cell lysate: sc-2243 or mouse lung extract: sc-2390.

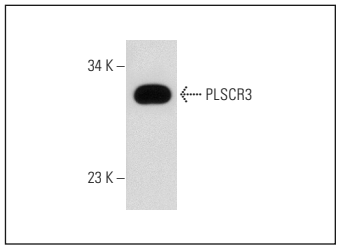
RECOMMENDED SUPPORT REAGENTS

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, 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).

DATA



PLSCR3 (SQ-9): sc-100808. Western blot analysis of PLSCR3 expression in HL-60 whole cell lysate.



PLSCR3 (SQ-9): sc-100808. Western blot analysis of PLSCR3 expression in 3T3-L1 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.