

# PLC $\eta$ 2 (S-16): sc-104624

## BACKGROUND

Phosphoinositide-specific phospholipase C (PLC) plays a crucial role in the initiation of receptor mediated signal transduction through the generation of the two second messengers, inositol 1,4,5-triphosphate (IP3) and diacylglycerol (DAG) from phosphatidylinositol 4,5-bisphosphate. There are many mammalian PLC isozymes, including PLC  $\beta$ 1, PLC  $\beta$ 2, PLC  $\beta$ 3, PLC  $\beta$ 4, PLC  $\gamma$ 1, PLC  $\gamma$ 2, PLC  $\delta$ 1, PLC  $\delta$ 2, PLC  $\epsilon$  and PLC  $\eta$ 2. PLC  $\eta$ 2 (phospholipase C,  $\eta$ 2), also known as PLCH2 or PLCL4, is a 1,416 amino acid cell membrane protein that contains one C2 domain, one PH domain, one PI-PLC X-box and Y-box domain and two EF-hand domains. Expressed in kidney and retinal tissue, PLC  $\eta$ 2 uses calcium as a cofactor to produce DAG and IP3, thereby playing an important role in the formation and maintenance of neuronal networks. Multiple isoforms of PLC  $\eta$ 2 exist due to alternative splicing events.

## REFERENCES

1. Cefai, D., et al. 1990. Human immunodeficiency virus-1 glycoproteins gp120 and gp160 specifically inhibit the CD3/T cell-antigen receptor phosphoinositide transduction pathway. *J. Clin. Invest.* 86: 2117-2124.
2. Zhou, Y., et al. 2005. Molecular cloning and characterization of PLC  $\eta$ 2. *Biochem. J.* 391: 667-676.
3. Dotson, C.D., et al. 2005. PLC  $\beta$ 2-independent behavioral avoidance of prototypical bitter-tasting ligands. *Chem. Senses* 30: 593-600.
4. Stewart, A.J., et al. 2005. Identification of a novel class of mammalian phosphoinositide-specific phospholipase C enzymes. *Int. J. Mol. Med.* 15: 117-121.
5. Nakahara, M., et al. 2005. A novel phospholipase C, PLC  $\eta$ 2, is a neuron-specific isozyme. *J. Biol. Chem.* 280: 29128-29134.

## CHROMOSOMAL LOCATION

Genetic locus: PLCH2 (human) mapping to 1p36.32.

## SOURCE

PLC  $\eta$ 2 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PLC  $\eta$ 2 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-104624 P, (100  $\mu$ 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

PLC  $\eta$ 2 (S-16) is recommended for detection of PLC  $\eta$ 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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); non cross-reactive with other PLC family members.

PLC  $\eta$ 2 (S-16) is also recommended for detection of PLC  $\eta$ 2 in additional species, including bovine and porcine.

Suitable for use as control antibody for PLC  $\eta$ 2 siRNA (h): sc-88680, PLC  $\eta$ 2 shRNA Plasmid (h): sc-88680-SH and PLC  $\eta$ 2 shRNA (h) Lentiviral Particles: sc-88680-V.

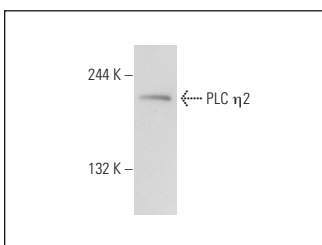
Molecular Weight of PLC  $\eta$ 2: 155 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812.

## 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



PLC  $\eta$ 2 (S-16): sc-104624. Western blot analysis of PLC  $\eta$ 2 expression in SH-SY5Y whole cell lysate.

## RESEARCH USE

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