

PIPK II β (A-15): sc-11791

BACKGROUND

Phosphatidylinositol phosphate kinases (PIPKs) synthesize phosphatidylinositol-4,5-bisphosphate, which regulates various processes including cell proliferation, survival, membrane trafficking and cytoskeletal organization. The PIPK family is divided into three different classes, designated type I, type II and type III, each of which contain an activation loop, which determines their enzymatic specificity and subcellular targeting. The type I PIPKs (PIPK I) consist of PIPK I α , β and γ , while the type II PIPKs (PIPK II) consist of PIPK II α and β , both of which exhibit high levels of expression in the brain. Type III PIPK (designated PIP5K III) localizes to the endosome membrane where it participates in endosome-related membrane trafficking and, like other PIPK proteins, generates phosphatidylinositol-4,5-bisphosphate via ATP-dependent phosphorylation. Due to their ability to regulate phosphatidylinositol-4,5-bisphosphate production, the PIPK proteins are essential messengers for signal transduction pathways throughout the body.

REFERENCES

1. Carricaburu, V., et al. 2003. The phosphatidylinositol (PI)-5-phosphate 4-kinase type II enzyme controls Insulin signaling by regulating PI-3,4,5-trisphosphate degradation. *Proc. Natl. Acad. Sci. USA* 100: 9867-9872.
2. Cabezas, A., et al. 2006. Cloning and subcellular localization of a human phosphatidylinositol 3-phosphate 5-kinase, PIKfyve/Fab1. *Gene* 371: 34-41.
3. Rutherford, A.C., et al. 2006. The mammalian phosphatidylinositol 3-phosphate 5-kinase (PIKfyve) regulates endosome-to-TGN retrograde transport. *J. Cell Sci.* 119: 3944-3957.
4. Clarke, J.H., et al. 2007. Type II PtdInsP kinases: location, regulation and function. *Biochem. Soc. Symp.* 2007:149-159.
5. Kanaho, Y., et al. 2007. The phosphoinositide kinase PIP5K that produces the versatile signaling phospholipid PI4,5P(2). *Biol. Pharm. Bull.* 30: 1605-1609.

CHROMOSOMAL LOCATION

Genetic locus: PIP5K2B (human) mapping to 17q12; Pip5k2b (mouse) mapping to 11 D.

SOURCE

PIPK II β (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIPK II β 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-11791 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

PIPK II β (A-15) is recommended for detection of PIPK II β of mouse, rat and 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).

PIPK II β (A-15) is also recommended for detection of PIPK II β in additional species, including avian.

Suitable for use as control antibody for PIPK II β siRNA (h): sc-39140, PIPK II β siRNA (m): sc-39141, PIPK II β shRNA Plasmid (h): sc-39140-SH, PIPK II β shRNA Plasmid (m): sc-39141-SH, PIPK II β shRNA (h) Lentiviral Particles: sc-39140-V and PIPK II β shRNA (m) Lentiviral Particles: sc-39141-V.

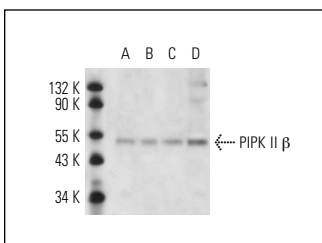
Molecular Weight of PIPK II β : 47 kDa.

Positive Controls: 3611-RF whole cell lysate: sc-2215, rat brain extract: sc-2392 or NIH/3T3 + TNF α cell lysate: sc-24753.

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



PIPK II β (A-15): sc-11791. Western blot analysis of PIPK II β expression in 3611-RF (A), MCP-5 (B) and TNF α -treated NIH/3T3 (C) whole cell lysates and rat brain tissue extract (D).

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.