

PIPK I α (A-17): sc-11772

BACKGROUND

Phosphatidylinositol-4-phosphate-5-kinase (PIPK) synthesizes phosphatidylinositol-4,5-bisphosphate, which regulates various processes including cell proliferation, survival, membrane trafficking, and cytoskeletal organization. The PIPK family is divided into type I, type II and type III. Each type of the PIPK family phosphorylate distinct substrates and they contain an activation loop, which determines their enzymatic specificity and subcellular targeting. The phosphatidylinositol-4-phosphate-5-kinase type I consists of three members, PIPK I α , β , and γ , which are characterized by phosphorylating PI4P on the 5-hydroxyl. PIPK I α (designated PIPK I β in mouse) is a 68 kDa protein and is expressed in brain tissue. PIPK I β , designated PIPK I α in mouse, is also called STM7. PIPK I γ has two variants produced by alternative splicing, which are detected at 87 kDa and 90 kDa, and are expressed in lung, brain, and kidneys.

REFERENCES

1. Divecha, N., et al. 1995. The cloning and sequence of the C isoform of PtdIns4P 5-kinase. *Biochem. J.* 309: 715-719
2. Loijens, J.C., et al. 1996. Type I phosphatidylinositol-4-phosphate 5-kinases are distinct members of this novel lipid kinase family. *J. Biol. Chem.* 271: 32937-32943.
3. Toliai, K.F., et al. 1998. Type I phosphatidylinositol-4-phosphate 5-kinases synthesize the novel lipids phosphatidylinositol 3,5-bisphosphate and phosphatidylinositol 5-phosphate. *J. Biol. Chem.* 273: 18040-18046.
4. Rao, V.D., et al. 1998. Structure of Type IIb phosphatidylinositol phosphate kinase: a protein kinase fold flattened for interfacial phosphorylation. *Cell.* 94: 829-839.
5. Ishihara, H., et al. 1998. Type I phosphatidylinositol-4-phosphate 5-kinases. Cloning of the third isoform and deletion/substitution analysis of members of this novel lipid kinase family. *J. Biol. Chem.* 273: 8741-8748.
6. Kunz, J., et al. 2000. The activation loop of phosphatidylinositol phosphate kinases determines signaling specificity. *Mol. Cell.* 5: 1-11.
7. Itoh, T., et al. 2000. Autophosphorylation of type I phosphatidylinositol phosphate kinase regulates its lipid kinase activity. *J. Biol. Chem.* 275: 19389-19394.

SOURCE

PIPK I α (A-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PIPK I α 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-11772 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 I α (A-17) is recommended for detection of PIPK I α 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).

PIPK I α (A-17) is also recommended for detection of PIPK I α in additional species, including bovine and porcine.

Suitable for use as control antibody for PIPK I α siRNA (h): sc-36232, PIPK I α shRNA Plasmid (h): sc-36232-SH and PIPK I α shRNA (h) Lentiviral Particles: sc-36232-V.

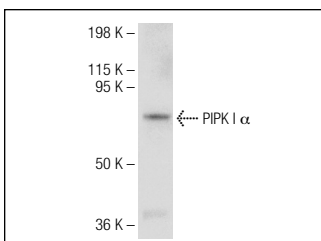
Molecular Weight of PIPK I α : 68 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or THP-1 cell lysate: sc-2238.

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 I α (A-17): sc-11772. Western blot analysis of PIPK I α expression in K-562 whole cell lysate.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **PIPK I α (D-12): sc-377021** or **PIPK I α (D-4): sc-515416**, our highly recommended monoclonal alternatives to PIPK I α (A-17).