SANTA CRUZ BIOTECHNOLOGY, INC.

PIPK I (H-300): sc-28900

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 phosphorylates distinct substrates. 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 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 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. and Anderson, R.A. 1996. Type I phosphatidylinositol-4-phosphate-5-kinases are distinct members of this novel lipid kinase family. J. Biol. Chem. 271: 32937-32943.
3. 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.
4. Tolias, 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.
5. Rao, V.D., et al. 1998. Structure of type II β phosphatidylinositol phosphate kinase: a protein kinase fold flattened for interfacial phosphorylation. Cell 94: 829-839.
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 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PIPK I γ of human origin.

PRODUCT

Each vial contains 200 µg IgG 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.

RESEARCH USE

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

APPLICATIONS

PIPK I (H-300) is recommended for detection of PIPK I α, β and γ of mouse, rat 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)], 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 (H-300) is also recommended for detection of PIPK I α, β and γ in additional species, including bovine and porcine.

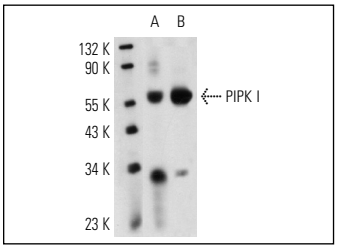
Molecular Weight of PIPK I: 68 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat testis extract: sc-2400.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PIPK I (H-300): sc-28900. Western blot analysis of PIPK I expression in mouse brain (**A**) and rat testis (**B**) tissue extracts.

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **PIPK I (D-12): sc-365238** or **PIPK I α (D-12): sc-377021**, our highly recommended monoclonal alternatives to PIPK I (H-300).