SANTA CRUZ BIOTECHNOLOGY, INC.

PIPK I α (E-3): sc-376195

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phosphatidylinositol-4-phosphate-5-kinase (PIPK) synthesizes phos-phatidylinositol-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 phosphatidy- linositol-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 a in mouse, is also called STM7. PIPK I γ has two variants produced by alternative splicing 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. 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 IIβ phosphatidylinositol phosphate kinase: a protein kinase fold flattened for interfacial phosphorylation. Cell 94: 829-839.

CHROMOSOMAL LOCATION

Genetic locus: PIP5K1A (human) mapping to 1q21.3; Pip5k1a (mouse) mapping to 3 F2.1.

SOURCE

PIPK I α (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 481-519 near the C-terminus of PIPK I α of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376195 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 (E-3) is recommended for detection of PIPK I α (designated PIPK I β in mouse) of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PIPK I α siRNA (h): sc-36232, PIPK I α siRNA (m): sc-36233, PIPK I α shRNA Plasmid (h): sc-36232-SH, PIPK I α shRNA Plasmid (m): sc-36233-SH, PIPK I α shRNA (h) Lentiviral Particles: sc-36232-V and PIPK I α shRNA (m) Lentiviral Particles: sc-36233-V.

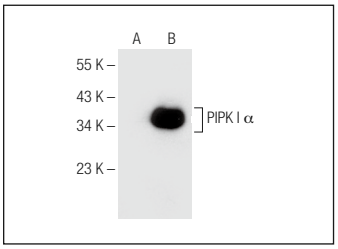
Molecular Weight of PIPK I α: 68 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or PIPK I α (m): 293T Lysate: sc-122588.

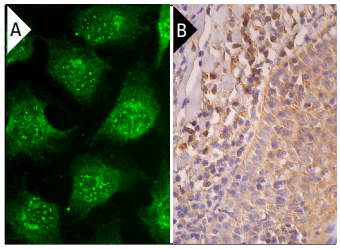
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PIPK I α (E-3): sc-376195. Western blot analysis of PIPK I α expression in non-transfected: sc-117752 (**A**) and mouse PIPK I α transfected: sc-122588 (**B**) 293T whole cell lysates.



PIPK I α (E-3): sc-376195. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of cells in non-germinal center and squamous epithelial cells (**A**). Immunofluorescence staining of methanol fixed HeLa cells showing nuclear speckle and cytoplasmic localization (**B**).

RESEARCH USE

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