

PIPK I (D-12): sc-365238



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.

SOURCE

PIPK I (D-12) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PIPK I γ of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PIPK I (D-12) is available conjugated to agarose (sc-365238 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365238 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365238 PE), fluorescein (sc-365238 FITC), Alexa Fluor[®] 488 (sc-365238 AF488), Alexa Fluor[®] 546 (sc-365238 AF546), Alexa Fluor[®] 594 (sc-365238 AF594) or Alexa Fluor[®] 647 (sc-365238 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365238 AF680) or Alexa Fluor[®] 790 (sc-365238 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PIPK I (D-12) is recommended for detection of PIPK I α , β and γ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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).

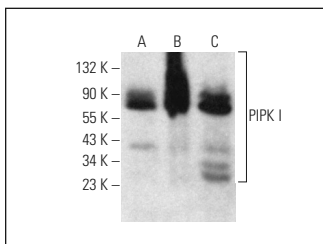
Molecular Weight of PIPK I: 68 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

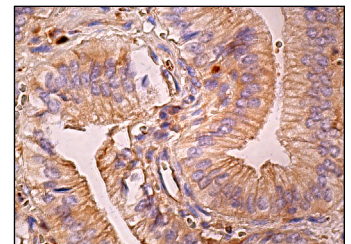
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PIPK I (D-12): sc-365238. Western blot analysis of PIPK I expression in K-562 (A), NAMALWA (B) and HeLa (C) whole cell lysates.



PIPK I (D-12): sc-365238. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells.

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.

PROTOCOLS

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