SANTA CRUZ BIOTECHNOLOGY, INC.

PIPK II α (149.1): sc-100406

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 divded into three different classes, designated type I, II and 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 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.

CHROMOSOMAL LOCATION

Genetic locus: PIP4K2A (human) mapping to 10p12.2; Pip4k2a (mouse) mapping to 2 A3.

SOURCE

PIPK II α (149.1) is a mouse monoclonal antibody raised against recombinant PIPK II α of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain 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.

APPLICATIONS

PIPK II α (149.1) is recommended for detection of PIPK II α 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), 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); may cross-react with PIPK II β.

Suitable for use as control antibody for PIPK II α siRNA (h): sc-39139, PIPK II α siRNA (m): sc-155934, PIPK II α shRNA Plasmid (h): sc-39139-SH, PIPK II α shRNA Plasmid (m): sc-155934-SH, PIPK II α shRNA (h) Lentiviral Particles: sc-39139-V and PIPK II α shRNA (m) Lentiviral Particles: sc-155934-V.

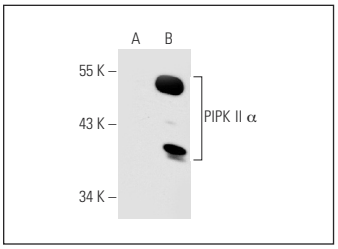
Molecular Weight of PIPK II α: 53 kDa.

Positive Controls: PIPK II α (m): 293T Lysate: sc-127337, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

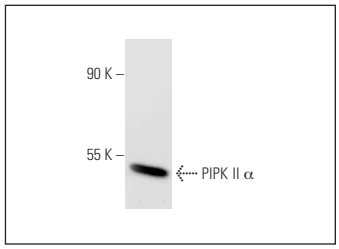
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-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.

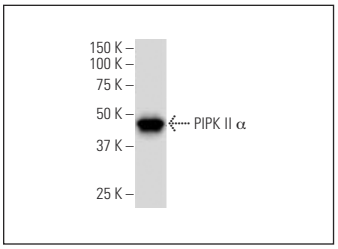
DATA



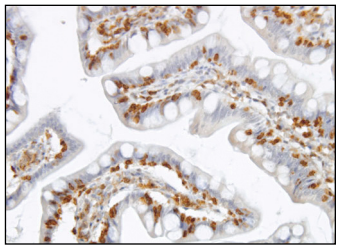
PIPK II α (149.1): sc-100406. Western blot analysis of PIPK II α expression in non-transfected: sc-117752 (**A**) and mouse PIPK II α transfected: sc-127337 (**B**) 293T whole cell lysates.



PIPK II α (149.1): sc-100406. Western blot analysis of PIPK II α expression in HeLa whole cell lysate.



PIPK II α (149.1): sc-100406. Western blot analysis of PIPK II α expression in K-562 whole cell lysate.



PIPK II α (149.1): sc-100406. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small Intestine tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Peretti de Albuquerque Wobeto, V., et al. 2014. PIPKIIα is widely expressed in hematopoietic-derived cells and may play a role in the expression of α- and γ-globins in K562 cells. Mol. Cell. Biochem. 393: 145-153.
2. Lima, K., et al. 2015. Differential profile of PIP4K2A expression in hematological malignancies. Blood Cells Mol. Dis. 55: 228-235.
3. Noch, E.K., et al. 2021. Distribution and localization of phosphatidylinositol 5-phosphate, 4-kinase α and β in the brain. J. Comp. Neurol. 529: 434-449.
4. Behari, J., et al. 2021. Conserved RNA binding activity of phosphatidyl inositol 5-phosphate 4-kinase (PIP4K2A). Front. Mol. Biosci. 8: 631281.

RESEARCH USE

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