

PI 4-kinase II α (B-5): sc-390026

BACKGROUND

Phosphatidylinositol (PI) kinases participate in the first step in activating important cellular effectors, such as PIP2 (phosphatidylinositol bisphosphate) and PTEN. Unlike other PI-kinases, PI 4-kinase family members only phosphorylate phosphatidylinositols, are potently inhibited by adenosine and lack a transmembrane domain. Total PI 4-kinase activity is dependent upon PI 4-kinase β , PI 4-kinase α , PI 4-kinase II α and PI 4-kinase II β activities. PI 4-kinase II α (phosphatidylinositol 4-kinase type 2- α) is a 479 amino acid protein that cooperates with other PI 4-kinases to phosphorylate PI to PI4P at the D-4 position, which is the first committed step in producing PIP2. Highly expressed in heart, placenta, skeletal muscle, brain and kidney, PI 4-kinase II α can also be found at lower levels in thymus, small intestine and colon.

CHROMOSOMAL LOCATION

Genetic locus: PI4K2A (human) mapping to 10q24.2; Pi4k2a (mouse) mapping to 19 C3.

SOURCE

PI 4-kinase II α (B-5) is a mouse monoclonal antibody raised against amino acids 1-40 mapping at the N-terminus of PI 4-kinase II α 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.

PI 4-kinase II α (B-5) is available conjugated to agarose (sc-390026 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390026 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390026 PE), fluorescein (sc-390026 FITC), Alexa Fluor[®] 488 (sc-390026 AF488), Alexa Fluor[®] 546 (sc-390026 AF546), Alexa Fluor[®] 594 (sc-390026 AF594) or Alexa Fluor[®] 647 (sc-390026 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390026 AF680) or Alexa Fluor[®] 790 (sc-390026 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PI 4-kinase II α (B-5) is recommended for detection of PI 4-kinase II α 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PI 4-kinase II α siRNA (h): sc-90773, PI 4-kinase II α siRNA (m): sc-152243, PI 4-kinase II α shRNA Plasmid (h): sc-90773-SH, PI 4-kinase II α shRNA Plasmid (m): sc-152243-SH, PI 4-kinase II α shRNA (h) Lentiviral Particles: sc-90773-V and PI 4-kinase II α shRNA (m) Lentiviral Particles: sc-152243-V.

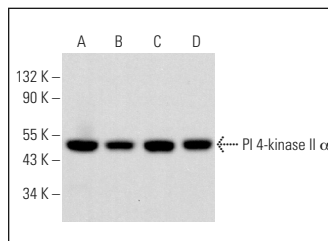
Molecular Weight of PI 4-kinase II α : 52 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

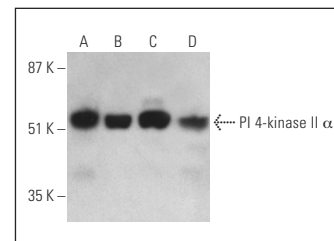
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



PI 4-kinase II α (B-5): sc-390026. Western blot analysis of PI 4-kinase II α expression in Caki-1 (A), HeLa (B), A-431 (C) and PC-3 (D) whole cell lysates. Detection reagent used: m-IgGk BP-HRP: sc-516102.



PI 4-kinase II α (B-5) HRP: sc-390026 HRP. Direct western blot analysis of PI 4-kinase II α expression in HL-60 (A), HeLa (B), A-431 (C) and PC-3 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Judith, D., et al. 2019. ATG9A shapes the forming autophagosome through Arfaptin 2 and phosphatidylinositol 4-kinase III β . *J. Cell Biol.* 218: 1634-1652.
- Khundadze, M., et al. 2021. Mouse models for hereditary spastic paraplegia uncover a role of PI4K2A in autophagic lysosome reformation. *Autophagy* 17: 3690-3706.
- Kutchukian, C., et al. 2021. NPC1 regulates the distribution of phosphatidylinositol 4-kinases at Golgi and lysosomal membranes. *EMBO J.* 40: e105990.
- Zhong, W., et al. 2022. An acquired phosphatidylinositol 4-phosphate transport initiates T-cell deterioration and leukemogenesis. *Nat. Commun.* 13: 4390.
- Tan, J.X., et al. 2022. A phosphoinositide signalling pathway mediates rapid lysosomal repair. *Nature* 609: 815-821.
- Gao, Y., et al. 2022. Intercellular transfer of activated STING triggered by RAB22A-mediated non-canonical autophagy promotes antitumor immunity. *Cell Res.* 32: 1086-1104.
- Tan, X., et al. 2023. EMT-activated secretory and endocytic vesicular trafficking programs underlie a vulnerability to PI4K2A antagonism in lung cancer. *J. Clin. Invest.* E-published.

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.