

PI 4-kinase β (A-2): sc-166822

BACKGROUND

The members of the phosphatidylinositol kinase (PIK) superfamily can be divided into three groups based on their substrate specificity. PIKs convert phosphatidylinositol (PI) into PI phosphate [PI(3)P], PI phosphate [PI(4)P], PI bisphosphate [PI(4,5)P₂] and PI triphosphate [PI(3,4,5)P₃]. The first group, the PI 3-kinases, is composed of highly related proteins designated p110 α , p110 β , p110 γ and p110 δ which convert PI into PI(3)P and PI(4,5)P₂ into PI(3,4,5)P₃. The second group, the PI 4-kinases, convert PI into PI(4)P. The third group, the PI(4)P5-kinases, convert PI(4)P into PI(4,5)P₂. Phosphatidylinositides represent important regulatory molecules and are involved in a diverse array of signaling pathways. Phosphatidylinositol biphosphate acts as an activator of PKCs and as a substrate for PLC γ , which converts the molecule into the second messengers, Inositol-1, 4, 5 triphosphate and 1, 2-diacylglycerol. PI(3,4,5)P₃ has been shown to activate the PKC ζ isoform. PI 4-kinase β is a cytoplasmic protein inhibited by wortmannin.

REFERENCES

1. Woscholski, R., et al. 1994. Biochemical characterization of the free catalytic p110 α and the complexed heterodimeric p110 α .p85 α forms of the mammalian phosphatidylinositol 3-kinase. J. Biol. Chem. 269: 25067-25072.
2. Woscholski, R., et al. 1994. A comparison of demethoxyviridin and wortmannin as inhibitors of phosphatidylinositol 3-kinase. FEBS Lett. 342: 109-114.
3. Hunter, T. 1995. When is a lipid kinase not a lipid kinase? When it is a protein kinase. Cell 83: 1-4.
4. Zhou, K., et al. 1995. A phosphatidylinositol (PI) kinase gene family in *Dictyostelium discoideum*: biological roles of putative mammalian p110 and yeast Vps34p PI 3-kinase homologs during growth and development. Mol. Cell. Biol. 15: 5645-5656.

CHROMOSOMAL LOCATION

Genetic locus: PI4KB (human) mapping to 1q21.3.

SOURCE

PI 4-kinase β (A-2) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PI 4-kinase β of human origin.

PRODUCT

Each vial contains 200 μ g IgG γ 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.

PROTOCOLS

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

APPLICATIONS

PI 4-kinase β (A-2) is recommended for detection of PI 4-kinase β of 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).

Suitable for use as control antibody for PI 4-kinase β siRNA (h): sc-45716, PI 4-kinase β shRNA Plasmid (h): sc-45716-SH and PI 4-kinase β shRNA (h) Lentiviral Particles: sc-45716-V.

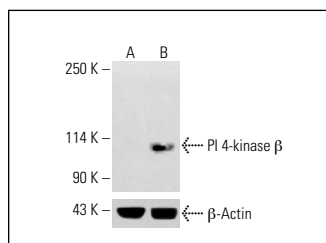
Molecular Weight of PI 4-kinase β : 110 kDa.

Positive Controls: SH-SY5Y whole cell lysate: sc-3812, A-431 whole cell lysate: sc-2201 or Jurkat whole cell lysate: sc-2204.

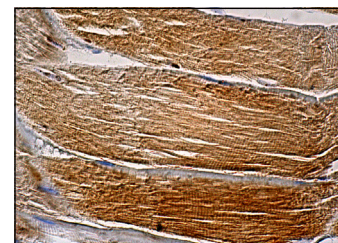
RECOMMENDED SUPPORT REAGENTS

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



PI 4-kinase β (A-2): sc-166822. Western blot analysis of PI 4-kinase β expression in untreated (A) and chemically-treated (B) HCT-116 whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-525408. β -Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



PI 4-kinase β (A-2): sc-166822. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Greninger, A.L., et al. 2012. The 3A protein from multiple picornaviruses utilizes the golgi adaptor protein ACBD3 to recruit PI4KIII β . J. Virol. 86: 3605-3616.

RESEARCH USE

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