

PI 4-kinase β (H-300): sc-67031

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.
5. Wong, K., et al. 1997. Subcellular locations of phosphatidylinositol 4-kinase isoforms. *J. Biol. Chem.* 272: 13236-13241.
6. Godi, A., et al. 1999. ARF mediates recruitment of PtdIns-4-OH kinase- β and stimulates synthesis of PtdIns(4,5)P₂ on the Golgi complex. *Nat. Cell Biol.* 1: 280-287.
7. Suer, S., et al. 2001. Human phosphatidylinositol 4-kinase isoform PI4K92. Expression of the recombinant enzyme and determination of multiple phosphorylation sites. *Eur. J. Biochem.* 268: 2099-2106.
8. Heilmeyer, L.M., Jr., et al. 2003. Mammalian phosphatidylinositol 4-kinases. *IUBMB Life* 55: 59-65.

CHROMOSOMAL LOCATION

Genetic locus: PI4KB (human) mapping to 1q21.3; Pi4kb (mouse) mapping to 3 F2.1.

SOURCE

PI 4-kinase β (H-300) is a rabbit polyclonal 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 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PI 4-kinase β (H-300) is recommended for detection of PI 4-kinase β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

PI 4-kinase β (H-300) is also recommended for detection of PI 4-kinase β in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PI 4-kinase β siRNA (h): sc-45716, PI 4-kinase β siRNA (m): sc-45717, PI 4-kinase β shRNA Plasmid (h): sc-45716-SH, PI 4-kinase β shRNA Plasmid (m): sc-45717-SH, PI 4-kinase β shRNA (h) Lentiviral Particles: sc-45716-V and PI 4-kinase β shRNA (m) Lentiviral Particles: sc-45717-V.

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

Positive Controls: SH-SY5Y cell lysate: sc-3812, SK-N-SH cell lysate: sc-2410 or MDCK cell lysate: sc-2252.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.


 MONOS
Satisfation
Guaranteed

Try **PI 4-kinase β (E-4): sc-166615** or **PI 4-kinase β (A-2): sc-166822**, our highly recommended monoclonal alternatives to PI 4-kinase β (H-300).