

PI 3-kinase p110 β (B-5): sc-376412

BACKGROUND

Phosphatidylinositol 3-kinase (PI 3-kinase) is composed of p85 and p110 subunits. p85 lacks PI 3-kinase activity and acts as an adapter, coupling p110 to activated protein tyrosine kinase. Two forms of p85 have been described (p85 α and p85 β), each possessing one SH3 and two SH2 domains. Various p110 isoforms have been identified. p110 α and p110 β interact with p85 α , and p110 α has also been shown to interact with p85 β *in vitro*. p110 δ expression is restricted to white blood cells. It has been shown to bind p85 α and β , but it apparently does not phosphorylate these subunits. p110 δ seems to have the capacity to autophosphorylate. p110 γ does not interact with the p85 subunits. It has been shown to be activated by α and $\beta\gamma$ heterotrimeric G proteins.

CHROMOSOMAL LOCATION

Genetic locus: PIK3CB (human) mapping to 3q22.3; Pik3cb (mouse) mapping to 9 E3.3.

SOURCE

PI 3-kinase p110 β (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-31 at the N-terminus of PI 3-kinase p110 β of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376412 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

PI 3-kinase p110 β (B-5) is recommended for detection of PI 3-kinase p110 β 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 3-kinase p110 β siRNA (h): sc-37269, PI 3-kinase p110 β siRNA (m): sc-29447, PI 3-kinase p110 β shRNA Plasmid (h): sc-37269-SH, PI 3-kinase p110 β shRNA Plasmid (m): sc-29447-SH, PI 3-kinase p110 β shRNA (h) Lentiviral Particles: sc-37269-V and PI 3-kinase p110 β shRNA (m) Lentiviral Particles: sc-29447-V.

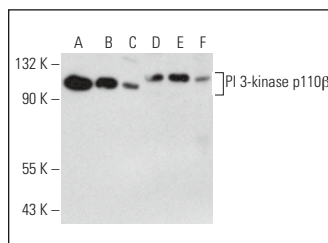
Molecular Weight of PI 3-kinase p110 β : 110 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, C32 whole cell lysate: sc-2205 or A-431 whole cell lysate: sc-2201.

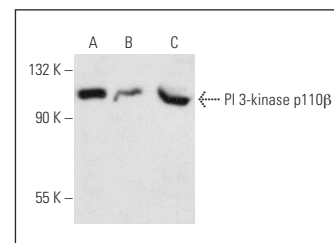
RECOMMENDED SUPPORT REAGENTS

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.

DATA



PI 3-kinase p110 β (B-5): sc-376412. Western blot analysis of PI 3-kinase p110 β expression in K-562 (A), RAW 264.7 (B), AMJ2-C8 (C), LADMAC (D) and RBL-1 (E) whole cell lysates and rat cerebellum tissue extract (F).



PI 3-kinase p110 β (B-5): sc-376412. Western blot analysis of PI 3-kinase p110 β expression in C32 (A), A-431 (B) and NCI-H1299 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Ng, P.K., et al. 2018. Systematic functional annotation of somatic mutations in cancer. *Cancer Cell* 33: 450-462.e10.
- He, S., et al. 2018. MicroRNA-511 inhibits cellular proliferation and invasion in colorectal cancer by directly targeting hepatoma-derived growth factor. *Oncol. Res.* 26: 1355-1363.
- Pan, Y., et al. 2019. Lower cardiovagal tone and baroreflex sensitivity associated with hepatic Insulin resistance and promote cardiovascular disorders in Tibetan minipigs induced by a high fat and high cholesterol diet. *J. Diabetes Complications* 33: 278-288.
- Zhang, Y., et al. 2019. Upregulation of miR-519 enhances radiosensitivity of esophageal squamous cell carcinoma through targeting PI3K/Akt/mTOR signaling pathway. *Cancer Chemother. Pharmacol.* 84: 1209-1218.
- Fang, D., et al. 2019. Overexpression of Biglycan is associated with resistance to Rapamycin in human WERI-Rb-1 retinoblastoma cells by inducing the activation of the phosphatidylinositol 3-kinases (PI3K)/Akt/nuclear factor κ B (NF κ B) signaling pathway. *Med. Sci. Monit.* 25: 6639-6648.
- Akhtar, N., et al. 2020. Runx proteins mediate protective immunity against *Leishmania donovani* infection by promoting CD40 expression on dendritic cells. *PLoS Pathog.* 16: e1009136.

RESEARCH USE

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