

PI 3-kinase p110 γ (D-12): sc-166365

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 β heterotrimeric G proteins.

CHROMOSOMAL LOCATION

Genetic locus: PIK3CG (human) mapping to 7q22.3; Pik3cg (mouse) mapping to 12 A3.

SOURCE

PI 3-kinase p110 γ (D-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 32-58 at the N-terminus of PI 3-kinase p110 γ of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PI 3-kinase p110 γ (D-12) is available conjugated to agarose (sc-166365 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166365 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166365 PE), fluorescein (sc-166365 FITC), Alexa Fluor® 488 (sc-166365 AF488), Alexa Fluor® 546 (sc-166365 AF546), Alexa Fluor® 594 (sc-166365 AF594) or Alexa Fluor® 647 (sc-166365 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166365 AF680) or Alexa Fluor® 790 (sc-166365 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166365 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PI 3-kinase p110 γ (D-12) is recommended for detection of PI 3-kinase p110 γ 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), 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).

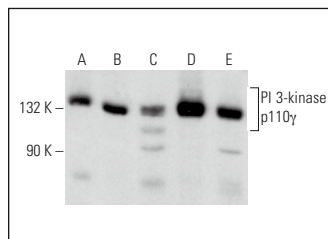
Suitable for use as control antibody for PI 3-kinase p110 γ siRNA (h): sc-39129, PI 3-kinase p110 γ siRNA (m): sc-39130, PI 3-kinase p110 γ shRNA Plasmid (h): sc-39129-SH, PI 3-kinase p110 γ shRNA Plasmid (m): sc-39130-SH, PI 3-kinase p110 γ shRNA (h) Lentiviral Particles: sc-39129-V and PI 3-kinase p110 γ shRNA (m) Lentiviral Particles: sc-39130-V.

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

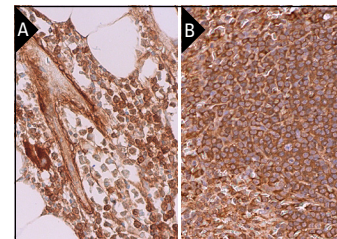
STORAGE

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

DATA



PI 3-kinase p110 γ (D-12): sc-166365. Western blot analysis of PI 3-kinase p110 γ expression in K-562 (A), Jurkat (B), WEHI-231 (C), RAW 264.7 (D) and RBL-1 (E) whole cell lysates.



PI 3-kinase p110 γ (D-12): sc-166365. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic and nuclear staining of hematopoietic cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp (B).

SELECT PRODUCT CITATIONS

- Sinha, R.K., et al. 2011. Epigallocatechin gallate (EGCG) inhibits type II phosphatidylinositol 4-kinases: a key component in pathways of phosphoinositide turnover. *Arch. Biochem. Biophys.* 516: 45-51.
- Yuan, W., et al. 2016. MicroRNA-126 inhibits colon cancer cell proliferation and invasion by targeting the chemokine (C-X-C motif) receptor 4 and Ras homolog gene family, member A, signaling pathway. *Oncotarget* 7: 60230-60244.
- Batchu, S.N., et al. 2018. The dipeptidyl peptidase 4 substrate CXCL12 has opposing cardiac effects in young mice and aged diabetic mice mediated by Ca²⁺ flux and phosphoinositide 3-kinase γ . *Diabetes* 67: 2443-2455.
- Xiao, J., et al. 2019. lncRNA HOTAIR promotes gastric cancer proliferation and metastasis via targeting miR-126 to active CXCR4 and RhoA signaling pathway. *Cancer Med.* 8: 6768-6779.
- Zhang, M., et al. 2020. Peripheral FGFR1 regulates myofascial pain in rats via the PI3K/Akt pathway. *Neuroscience* 436: 1-10.
- Wu, Y., et al. 2021. Dexmedetomidine alleviates hepatic ischaemia-reperfusion injury via the PI3K/AKT/Nrf2-NLRP3 pathway. *J. Cell. Mol. Med.* 25: 9983-9994.
- Qian, H., et al. 2022. Self-assembled tetrahedral framework nucleic acid mediates tumor-associated macrophage reprogramming and restores antitumor immunity. *Mol. Ther. Nucleic Acids* 27: 763-773.
- Kundu, M., et al. 2023. Magnolol induces cytotoxic autophagy in glioma by inhibiting PI3K/AKT/mTOR signaling. *Exp. Cell Res.* 424: 113488.

RESEARCH USE

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

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