SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p110α (4F3): sc-293172

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 (p85α and p85β), each possessing one SH3 and two SH2 domains. Various p110 isoforms have been identified. P110α and p110β interact with p85α, and p110α has also been shown to interact with p85β *in vitro*. P110δ expression is restricted to white blood cells. It has been shown to bind p85α and β, but it apparently does not phosphorylate these subunits. P110δ seems to have the capacity to autophosphorylate. P110γ does not interact with the p85 subunits. It has been shown to be activated by α and βγ heterotrimeric G proteins.

REFERENCES

1. Skolnik, E.Y., et al. 1991. Cloning of PI3 kinase-associated p85 utilizing a novel method for expression/cloning of target proteins for receptor tyrosine kinases. Cell 65: 83-90.
2. Otsu, M., et al. 1991. Characterization of two 85 kDa proteins that associate with receptor tyrosine kinases, middle-T/pp60$^{c\text{-}src}$ complexes, and PI 3-kinase. Cell 65: 91-104.

CHROMOSOMAL LOCATION

Genetic locus: PIK3CA (human) mapping to 3q26.32; Pik3ca (mouse) mapping to 3 A3.

SOURCE

PI 3-kinase p110α (4F3) is a mouse monoclonal antibody raised against recombinant protein fragment corresponding to PI 3-kinase p110α of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PI 3-kinase p110α (4F3) is recommended for detection of PI 3-kinase p110α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PI 3-kinase p110α siRNA (h): sc-39127, PI 3-kinase p110α siRNA (m): sc-39128, PI 3-kinase p110α shRNA Plasmid (h): sc-39127-SH, PI 3-kinase p110α shRNA Plasmid (m): sc-39128-SH, PI 3-kinase p110α shRNA (h) Lentiviral Particles: sc-39127-V and PI 3-kinase p110α shRNA (m) Lentiviral Particles: sc-39128-V.

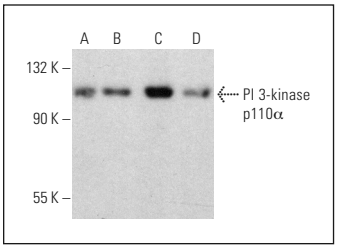
Molecular Weight of PI 3-kinase p110α: 110 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A-431 whole cell lysate: sc-2201 or C2C12 whole cell lysate: sc-364188.

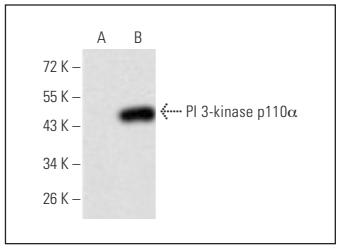
STORAGE

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 p110α (4F3): sc-293172. Western blot analysis of PI 3-kinase p110α expression in Jurkat (**A**), A-431 (**B**), C2C12 (**C**) and NIH/3T3 (**D**) whole cell lysates.



PI 3-kinase p110α (4F3): sc-293172. Western blot analysis of PI 3-kinase p110α expression in non-transfected (**A**) and human PI 3-kinase p110α (881-1068)-hIgGFc transfected (**B**) HEK293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mou, S., et al. 2017. Curcumin inhibits cell proliferation and promotes apoptosis of laryngeal cancer cells through Bcl-2 and PI3K/Akt, and by upregulating miR-15a. Oncol. Lett. 14: 4937-4942.
2. Fei, S., et al. 2018. MicroRNA-3941 targets IGF2 to control LPS-induced acute pneumonia in A549 cells. Mol. Med. Rep. 17: 4019-4026.
3. Chang, L., et al. 2019. MiR-181b-5p suppresses starvation-induced cardiomyocyte autophagy by targeting Hspa5. Int. J. Mol. Med. 43: 143-154.
4. Wang, W., et al. 2019. Deoxypodophyllotoxin inhibits cell viability and invasion by blocking the PI3K/Akt signaling pathway in human glioblastoma cells. Oncol. Rep. 41: 2453-2463.
5. Meng, D., et al. 2020. ETV5 overexpression contributes to tumor growth and progression of thyroid cancer through PIK3CA. Life Sci. 253: 117693.
6. Chen, Y.T. and Kung, J.T. 2020. Rapid death of follicular B cells and Burkitt lymphoma cells effectuated by Xbp1s. J. Immunol. 204: 3236-3247.
7. Sun, G., et al. 2020. Curcumin alleviates neuroinflammation, enhances hippocampal neurogenesis, and improves spatial memory after traumatic brain injury. Brain Res. Bull. 162: 84-93.
8. Velázquez-Quesada, I., et al. 2020. Pranlukast antagonizes CD49f and reduces stemness in triple-negative breast cancer cells. Drug Des. Devel. Ther. 14: 1799-1811.
9. Sarode, A.Y., et al. 2020. Residue-specific message encoding in CD40-ligand. iScience 23: 101441.
10. Lou, Z., et al. 2020. The effects of microRNA-126 reduced inflammation and apoptosis of diabetic nephropathy through PI3K/AKT signalling pathway by VEGF. Arch. Physiol. Biochem. E-published.

RESEARCH USE

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