SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase C2α (17): sc-136298

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phosphatidylinositol 3-kinases (PI3Ks) phosphorylate the 3' OH position of the inositol ring of inositol lipids. Human PI 3-kinase C2α (PIK3C2A, C2-containing phosphatidylinositol kinase, p110α or CPK) contains a C-terminal calcium-binding and phospholipid-binding module known as the C2 domain. The cDNA sequence of PI 3-kinase C2α predicts a 1,686-amino acid protein that is 90% identical to mouse Cpk (term for the *Drosophila* homolog). Northern blot analysis reveals that PI 3-kinase C2α is expressed as an 8 kb mRNA in a wide variety of tissues. *In vitro,* the PI 3-kinase C2α enzyme can phosphorylate phosphatidylinositol and phosphatidylinositol-4-phosphate. The PI 3-kinase C2α gene contains 32 exons and spans approximately 76 kb.

REFERENCES

1. Molz, L., et al. 1996. Cpk is a novel class of *Drosophila* PtdIns 3-kinase containing a C2 domain. J. Biol. Chem. 271: 13892-13899.
2. Domin, J., et al. 1997. Cloning of a human phosphoinositide 3-kinase with a C2 domain that displays reduced sensitivity to the inhibitor Wortmannin. Biochem. J. 326: 139-147.
3. Caldwell, G.M., et al. 2001. Mapping of genes and transcribed sequences in a gene rich 400 kb region on human chromosome 11p15.1→p14. Cytogenet. Cell Genet. 92: 103-107.

CHROMOSOMAL LOCATION

Genetic locus: PIK3C2A (human) mapping to 11p15.1; Pik3c2a (mouse) mapping to 7 F1.

SOURCE

PI 3-kinase C2α (17) is a mouse monoclonal antibody raised against PI 3-kinase C2α of mouse origin.

PRODUCT

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

APPLICATIONS

PI 3-kinase C2α (17) is recommended for detection of PI 3-kinase C2α 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PI 3-kinase C2α siRNA (h): sc-61340, PI 3-kinase C2α siRNA (m): sc-61341, PI 3-kinase C2α shRNA Plasmid (h): sc-61340-SH, PI 3-kinase C2α shRNA Plasmid (m): sc-61341-SH, PI 3-kinase C2α shRNA (h) Lentiviral Particles: sc-61340-V and PI 3-kinase C2α shRNA (m) Lentiviral Particles: sc-61341-V.

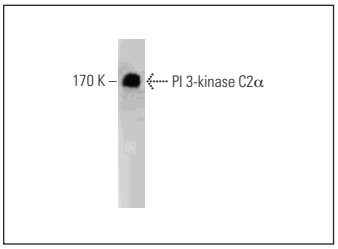
Molecular Weight of PI 3-kinase C2α: 190 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or rat brain extract: sc-2392.

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 C2α (17): sc-136298. Western blot analysis of PI 3-kinase C2α expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2015. miR-124 regulates fetal pulmonary epithelial cell maturation. Am. J. Physiol. Lung Cell. Mol. Physiol. 309: L400-L413.
2. Zhao, Y., et al. 2017. miR-144-3p inhibits cell proliferation and induces apoptosis in multiple myeloma by targeting c-Met. Am. J. Transl. Res. 9: 2437-2446.
3. Zeng, N., et al. 2018. Anticancer activity of caffeic acid n-butyl ester against A-431 skin carcinoma cell line occurs via induction of apoptosis and inhibition of the mTOR/PI3K/Akt signaling pathway. Mol. Med. Rep. 17: 5652-5657.
4. Chen, M., et al. 2019. Mahanine induces apoptosis, cell cycle arrest, inhibition of cell migration, invasion and PI3K/Akt/mTOR signalling pathway in glioma cells and inhibits tumor growth *in vivo*. Chem. Biol. Interact. 299: 1-7.
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6. Li, H., et al. 2019. Sorghumol triterpene inhibits the growth of circulating renal cancer cells by promoting cell apoptosis, G_2/M cell cycle arrest and downregulating m-TOR/PI3K/AKT signalling pathway. J. BUON 24: 310-314.
7. Jiang, W., et al. 2019. miR-140-3p suppresses cell growth and induces apoptosis in colorectal cancer by targeting PD-L1. Onco Targets Ther. 12: 10275-10285.
8. Sun, N., et al. 2019. Inactivation of P2YR12 contributes to isoflurane-induced neuronal injury by altering TLR-4/BDNF/TNF-α. Folia Neuropathol. 57: 161-169.
9. Liao, J., et al. 2022. GDF15 alleviates the progression of benign tracheobronchial stenosis by inhibiting epithelial-mesenchymal transition and inactivating fibroblasts. Exp. Cell Res. 421: 113410.

RESEARCH USE

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