SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase C2β (16L9): sc-100407

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phosphoinositide 3-kinases (PI 3-Ks) phosphorylate the 3'- OH position of the inositol ring of inositol lipids. They act as participants in signaling pathways that regulate cell growth by virtue of their activation in response to various mitogenic stimuli. PI 3-Ks are composed of a catalytic subunit, such as PI 3-kinase C2β (PIK3CB) and an adaptor subunit. PI 3-kinase C2β, also known as p110-β, is a 1,070 amino acid protein that shares 42% identity with p110 of cow origin. It is expressed in several human and rodent cell lines. Studies predict that PI 3-kinase C2β has a role in modulating the formation and stability of α2B (ITGA2B)/β3 (ITGB3) Integrin adhesion bonds, which are essential in shear force-induced platelet activation.

REFERENCES

1. Hu, P., et al. 1993. Cloning of a novel, ubiquitously expressed human phosphatidylinositol 3-kinase and identification of its binding site on p85. Mol. Cell. Biol. 13: 7677-7688.
2. Roche, S., et al. 1998. A function for phosphatidylinositol 3-kinase β (p85α-p110β) in fibroblasts during mitogenesis: requirement for Insulin- and lysophosphatidic acid-mediated signal transduction. Mol. Cell. Biol. 18: 7119-7129.

CHROMOSOMAL LOCATION

Genetic locus: PIK3C2B (human) mapping to 1q32.1; Pik3c2b (mouse) mapping to 1 E4.

SOURCE

PI 3-kinase C2β (16L9) is a mouse monoclonal antibody raised against recombinant PI 3-kinase C2β of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PI 3-kinase C2β (16L9) is recommended for detection of PI 3-kinase C2β of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:100-1:5000).

Suitable for use as control antibody for PI 3-kinase C2β siRNA (h): sc-61346, PI 3-kinase C2β siRNA (m): sc-155932, PI 3-kinase C2β shRNA Plasmid (h): sc-61346-SH, PI 3-kinase C2β shRNA Plasmid (m): sc-155932-SH, PI 3-kinase C2β shRNA (h) Lentiviral Particles: sc-61346-V and PI 3-kinase C2β shRNA (m) Lentiviral Particles: sc-155932-V.

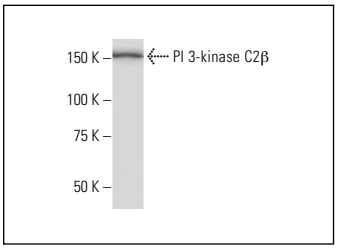
Molecular Weight of PI 3-kinase C2β: 185 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

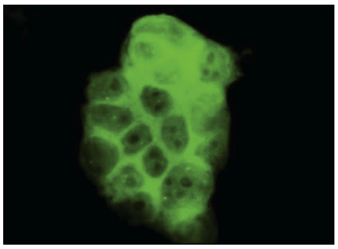
STORAGE

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 C2β (16L9): sc-100407. Western blot analysis of PI 3-kinase C2β expression in A-431 whole cell lysate.



PI 3-kinase C2β (16L9): sc-100407. Immunofluorescence staining of paraformaldehyde-fixed A-431 cells showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Zhou, Z.W., et al. 2012. Mechanism of reversal of high glucose-induced endothelial nitric oxide synthase uncoupling by tanshinone IIA in human endothelial cell line EA.hy926. Eur. J. Pharmacol. 697: 97-105.
2. Shen, Y., et al. 2013. Integrins-FAK-Rho GTPases pathway in endothelial cells sense and response to surface wettability of plasma nanocoatings. ACS Appl. Mater. Interfaces 5: 5112-5121.
3. Shen, Y., et al. 2015. Effect of surface chemistry on the integrin induced pathway in regulating vascular endothelial cells migration. Colloids Surf. B Biointerfaces 126: 188-197.
4. Liu, S., et al. 2016. Fluid shear stress induces epithelial-mesenchymal transition (EMT) in Hep-2 cells. Oncotarget 7: 32876-32892.
5. Yu, H., et al. 2018. Inhibition of cell migration by focal adhesion kinase: time-dependent difference in integrin-induced signaling between endothelial and hepatoblastoma cells. Int. J. Mol. Med. 41: 2573-2588.
6. Zhang, J.X., et al. 2018. Anticancer activity of 23,24-dihydrocucurbitacin B against the HeLa human cervical cell line is due to apoptosis and G_2/M cell cycle arrest. Exp. Ther. Med. 15: 2575-2582.
7. Su, G., et al. 2019. Integrin-induced signal event contributes to self-assembled monolayers on Au-nanoparticle-regulated cancer cell migration and invasion. ACS Biomater. Sci. Eng. 5: 1804-1821.
8. Mohamad, H.E., et al. 2020. Infliximab ameliorates tumor necrosis factor-α exacerbated renal Insulin resistance induced in rats by regulating Insulin signaling pathway. Eur. J. Pharmacol. 872: 172959.
9. Cheng, Y., et al. 2020. Pituitary miRNAs target GHRHR splice variants to regulate GH synthesis by mediating different intracellular signaling pathways. RNA Biol. 17: 1754-1766.

RESEARCH USE

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