SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p110 (I-19): sc-7248

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The Power to Question

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-src complexes, and PI3-kinase. Cell 65: 91-104.

SOURCE

PI 3-kinase p110 (I-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PI 3-kinase p110 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7248 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PI 3-kinase p110 (I-19) is recommended for detection of PI 3-kinase p110β of mouse, rat and human origin, PI 3-kinase p110α, p110δ, and to a lesser extent, p110γ of human and mouse origin, PI 3-kinase C2β of human origin, and PI 3-kinase p110 of *Drosophila melanogaster* and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PI 3-kinase p110 (I-19) is also recommended for detection of PI 3-kinase p110 in additional species, including equine, canine, bovine, porcine and avian.

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

Positive Controls: K-562 whole cell lysate: sc-2203 or C32 whole cell lysate: sc-2205.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Kitagawa, H., et al. 1999. Immunoreactive Akt, PI 3K and ERK protein kinase expression in ischemic rat brain. Neurosci. Lett. 274: 45-48.
2. Fan, S., et al. 2001. The multisubstrate adapter Gab 1 regulates hepatocyte growth factor (scatter factor)-c-Met signaling for cell survival and DNA repair. Mol. Cell. Biol. 21: 4968-4984.
3. Sablina, A.A., et al. 2003. Tumor suppressor p53 and its homologue p73 affect cell migration. J. Biol. Chem. 278: 27362-27371.
4. Abedinpour, P., et al. 2003. Isolation of a caveolae-enriched fraction from rat lung by affinity partitioning and sucrose gradient centrifugation. Anal. Biochem. 313: 1-8.
5. Hansen, I.A., et al. 2005. Target of rapamycin-dependent activation of S6 kinase is a central step in the transduction of nutritional signals during egg development in a mosquito. J. Biol. Chem. 280: 20565-20572.
6. Shiote, M., et al. 2005. Reduction of a vascular endothelial growth factor receptor, fetal liver kinase-1, by antisense oligonucleotides induces motor neuron death in rat spinal cord exposed to hypoxia. Neuroscience 132: 175-182.
7. Colomiere, M., et al. 2009. Defective insulin signaling in placenta from pregnancies complicated by gestational diabetes mellitus. Eur. J. Endocrinol. 160: 567-578.
8. Viscarra, J.A., et al. 2011. Glut4 is upregulated despite decreased insulin signaling during prolonged fasting in northern elephant seal pups. Am. J. Physiol. Regul. Integr. Comp. Physiol. 300: R150-R154.
9. Hong, K.S., et al. 2012. Involvement of SIRT1 in hypoxic down-regulation of c-Myc and β-catenin and hypoxic preconditioning effect of polyphenols. Toxicol. Appl. Pharmacol. 259: 210-218.

STORAGE

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