SANTA CRUZ BIOTECHNOLOGY, INC.

p-PI 3-kinase p85α (Tyr 467): sc-293115

BACKGROUND

Phosphatidylinositol 3-kinase (PI 3-kinase) phosphorylates the 3' OH position of the inositol ring of inositol lipids and is composed of p85 and p110 subunits. PI 3-kinase 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. PI 3-kinase p85α, also known as GRB1, phosphatidylinositol 3-kinase regulatory 1 or p85, is a 724 amino acid protein that exists as 4 alternatively spliced isoforms. Involved in Insulin metabolism, defects in the PI 3-kinase p85α gene have been linked to Insulin resistance. PI 3-kinase p85α is polyubiquitinated in T-cells by Cbl-b, and has multiple phosphorylated amino acid residues, including a phosphorylated tyrosine residue at position 467.

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. Van Horn, D.J., et al. 1994. Direct activation of the phosphatidylinositol 3'-kinase by the Insulin receptor. J. Biol. Chem. 269: 29-32.
3. Craparo, A., et al. 1995. Non-SH2 domains within Insulin receptor substrate-1 and SHC mediate their phosphotyrosine-dependent interaction with the NPEY motif of the Insulin-like growth factor I receptor. J. Biol. Chem. 270: 15639-15643.

CHROMOSOMAL LOCATION

Genetic locus: PIK3R1 (human) mapping to 5q13.1; Pik3r1 (mouse) mapping to 13 D1.

SOURCE

p-PI 3-kinase p85α (Tyr 467) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 467 of PI 3-kinase p85α of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-PI 3-kinase p85α (Tyr 467) is recommended for detection of Tyr 467 phosphorylated PI 3-kinase p85α 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).

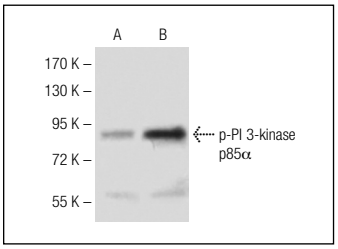
Suitable for use as control antibody for PI 3-kinase p85α siRNA (h): sc-36217, PI 3-kinase p85α siRNA (m): sc-36218, PI 3-kinase p85α shRNA Plasmid (h): sc-36217-SH, PI 3-kinase p85α shRNA Plasmid (m): sc-36218-SH, PI 3-kinase p85α shRNA (h) Lentiviral Particles: sc-36217-V and PI 3-kinase p85α shRNA (m) Lentiviral Particles: sc-36218-V.

Molecular Weight of p-PI 3-kinase p85α isoforms: 84/53/50/84 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



p-PI 3-kinase p85α (Tyr 467): sc-293115. Western blot analysis of PI 3-kinase p85α phosphorylation expression in untreated (**A**) and sorbitol treated (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, H.T., et al. 2011. Stromal cell-derived factor-1/CXCR4 promotes IL-6 production in human synovial fibroblasts. J. Cell. Biochem. 112: 1219-1227.
2. Tsai, C.H., et al. 2013. High glucose induces vascular endothelial growth factor production in human synovial fibroblasts through reactive oxygen species generation. Biochim. Biophys. Acta 1830: 2649-2658.
3. Tsou, H.K., et al. 2013. HGF and c-Met interaction promotes migration in human chondrosarcoma cells. PLoS ONE 8: e53974.
4. Yu, H.S., et al. 2013. Involvement of intercellular adhesion molecule-1 up-regulation in bradykinin promotes cell motility in human prostate cancers. Int. J. Mol. Sci. 14: 13329-13345.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.