SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p110β (D-2): sc-376492

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 PI 3-kinase. Cell 65: 91-104.
3. Hiles, I.D., et al. 1992. Phosphatidylinositol 3-kinase: structure and expression of the 110 kDa catalytic subunit. Cell 70: 419-429.
4. 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.
5. Stoyanov, B., et al. 1995. Cloning and characterization of a G protein-activated human phosphoinositide-3 kinase. Science 269: 690-693.
6. Vanhaesebroeck, B., et al. 1997. p110δ, a novel phosphoinositide 3-kinase in leukocytes. Proc. Natl. Acad. Sci. USA 94: 4330-4335.

CHROMOSOMAL LOCATION

Genetic locus: PIK3CB (human) mapping to 3q22.3; Pik3cb (mouse) mapping to 9 E3.3.

SOURCE

PI 3-kinase p110β (D-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-31 at the N-terminus of PI 3-kinase p110β of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-376492 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

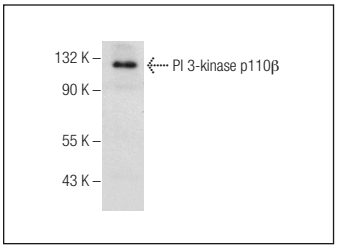
PI 3-kinase p110β (D-2) is recommended for detection of PI 3-kinase p110β of mouse and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PI 3-kinase p110β siRNA (h): sc-37269, PI 3-kinase p110β siRNA (m): sc-29447, PI 3-kinase p110β shRNA Plasmid (h): sc-37269-SH, PI 3-kinase p110β shRNA Plasmid (m): sc-29447-SH, PI 3-kinase p110β shRNA (h) Lentiviral Particles: sc-37269-V and PI 3-kinase p110β shRNA (m) Lentiviral Particles: sc-29447-V.

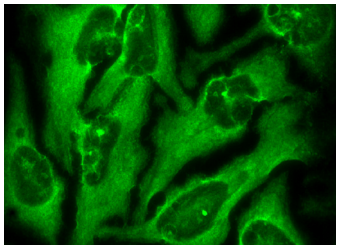
Molecular Weight of PI 3-kinase p110β: 110 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, C32 whole cell lysate: sc-2205 or HUV-EC-C whole cell lysate.

DATA



PI 3-kinase p110β (D-2): sc-376492. Western blot analysis of PI 3-kinase p110β expression in K-562 whole cell lysate.



PI 3-kinase p110β (D-2): sc-376492. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

RESEARCH USE

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

PROTOCOLS

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