SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p85α (C-1): sc-376112

SANTA CRUZ BIOTECHNOLOGY

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 PI 3-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$^{c\text{-}src}$ complexes, and PI 3-kinase. Cell 65: 91-104.

CHROMOSOMAL LOCATION

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

SOURCE

PI 3-kinase p85α (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 7-43 near the N-terminus of PI 3-kinase p85α of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PI 3-kinase p85α (C-1) is available conjugated to agarose (sc-376112 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376112 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376112 PE), fluorescein (sc-376112 FITC), Alexa Fluor® 488 (sc-376112 AF488), Alexa Fluor® 546 (sc-376112 AF546), Alexa Fluor® 594 (sc-376112 AF594) or Alexa Fluor® 647 (sc-376112 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376112 AF680) or Alexa Fluor® 790 (sc-376112 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376112 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 p85α (C-1) is recommended for detection of PI 3-kinase p85α of mouse, rat 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

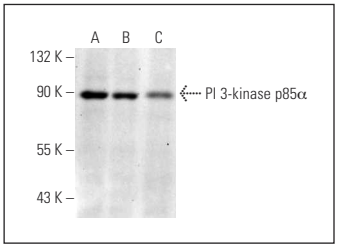
PI 3-kinase p85α (C-1) is also recommended for detection of PI 3-kinase p85α in additional species, including equine, bovine and avian.

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 siRNA (r): sc-156021, 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 Plasmid (r): sc-156021-SH, PI 3-kinase p85α shRNA (h) Lentiviral Particles: sc-36217-V, PI 3-kinase p85α shRNA (m) Lentiviral Particles: sc-36218-V and PI 3-kinase p85α shRNA (r) Lentiviral Particles: sc-156021-V.

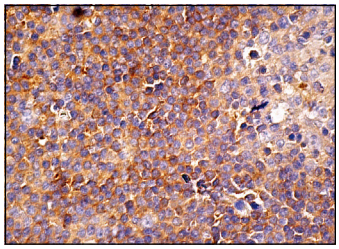
Molecular Weight of PI 3-kinase p85α: 85 kDa.

Positive Controls: SUP-T1 whole cell lysate: sc-364796, NIH/3T3 whole cell lysate: sc-2210 or Caki-1 cell lysate: sc-2224.

DATA



PI 3-kinase p85α (C-1) HRP: sc-376112 HRP. Direct western blot analysis of PI 3-kinase p85α expression in SUP-T1 (**A**), Caki-1 (**B**) and NIH/3T3 (**C**) whole cell lysates.



PI 3-kinase p85α (C-1): sc-376112. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cells in germinal and non-germinal centers.

SELECT PRODUCT CITATIONS

1. Li, T.M., et al. 2012. Interleukin-11 increases cell motility and up-regulates intercellular adhesion molecule-1 expression in human chondrosarcoma cells. J. Cell. Biochem. 113: 3353-3362.
2. Zhi, F., et al. 2023. NLRP6 potentiates PI3K/AKT signalling by promoting autophagic degradation of p85α to drive tumorigenesis. Nat. Commun. 14: 6069.
3. Ko, M.Y., et al. 2024. Bisphenol S (BPS) induces glioblastoma progression via regulation of EZH2-mediated PI3K/AKT/mTOR pathway in U87-MG cells. Toxicology 507: 153898.

RESEARCH USE

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