SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p110δ (A-8): sc-55589

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 forms have been identified. p110α and p110β interact with p85α, and p110α has also been shown to interact with p85β *in vitro*. It has been shown to bind p85α and β, but it apparently does not phosphorylate these subunits. p110δ has the capacity to autophosphorylate and results in the nearly complete inactivation of the lipid kinase activity. Interestingly, p110γ does not interact with the p85 subunits and has been shown to be activated by α and βγ heterotrimeric G proteins. Two p110δ isoforms have been identified and are widely expressed. Isoform 1 is expressed predominantly in leukocytes while isoform 2 is expressed in normal thymus, lung and spleen tissues.

CHROMOSOMAL LOCATION

Genetic locus: PIK3CD (human) mapping to 1p36.22; Pik3cd (mouse) mapping to 4 E2.

SOURCE

PI 3-kinase p110δ (A-8) is a mouse monoclonal antibody raised against amino acids 363-582 mapping at the N-terminus of PI 3-kinase p110δ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PI 3-kinase p110δ (A-8) is available conjugated to agarose (sc-55589 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55589 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55589 PE), fluorescein (sc-55589 FITC), Alexa Fluor® 488 (sc-55589 AF488), Alexa Fluor® 546 (sc-55589 AF546), Alexa Fluor® 594 (sc-55589 AF594) or Alexa Fluor® 647 (sc-55589 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55589 AF680) or Alexa Fluor® 790 (sc-55589 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PI 3-kinase p110δ (A-8) is recommended for detection of PI 3-kinase p110δ 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).

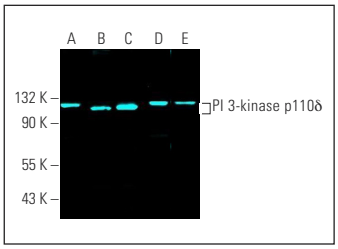
Suitable for use as control antibody for PI 3-kinase p110δ siRNA (h): sc-39131, PI 3-kinase p110δ siRNA (m): sc-39132, PI 3-kinase p110δ shRNA Plasmid (h): sc-39131-SH, PI 3-kinase p110δ shRNA Plasmid (m): sc-39132-SH, PI 3-kinase p110δ shRNA (h) Lentiviral Particles: sc-39131-V and PI 3-kinase p110δ shRNA (m) Lentiviral Particles: sc-39132-V.

Molecular Weight of PI 3-kinase p110δ isoforms: 119/33 kDa.

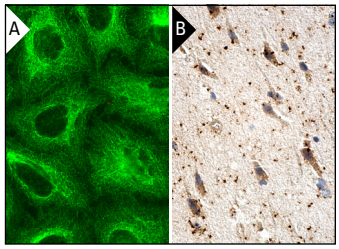
STORAGE

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 p110δ (A-8) Alexa Fluor® 647: sc-55589 AF647. Direct fluorescent western blot analysis of PI 3-kinase p110δ expression in C32 (**A**), Raji (**B**), ALL-SIL (**C**), ECV304 (**D**) and RT-4 (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



PI 3-kinase p110δ (A-8): sc-55589. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeleton localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal and glial cells (**B**).

SELECT PRODUCT CITATIONS

1. Smith, J.A., et al. 2008. Evidence that the Nijmegen breakage syndrome protein, an early sensor of double-strand DNA breaks (DSB), is involved in HIV-1 post-integration repair by recruiting the ataxia telangiectasia-mutated kinase in a process similar to, but distinct from, cellular DSB repair. Virol. J. 5: 11.
2. Owusu-Ofori, K., et al. 2013. PI3K mediates stretch-induced COX-2 expression during urinary tract obstruction. J. Endourol. 27: 220-229.
3. Nagaraju, G.P., et al. 2014. HSP90 inhibition downregulates thymidylate synthase and sensitizes colorectal cancer cell lines to the effect of 5FU-based chemotherapy. Oncotarget 5: 9980-9991.
4. Yuzugullu, H., et al. 2015. A PI3K p110β-Rac signalling loop mediates Pten-loss-induced perturbation of haematopoiesis and leukaemogenesis. Nat. Commun. 6: 8501.
5. Papaleo, F., et al. 2016. Behavioral, neurophysiological, and synaptic impairment in a transgenic neuregulin1 (NRG1-IV) murine schizophrenia model. J. Neurosci. 36: 4859-4875.
6. Wang, B.D., et al. 2017. Alternative splicing promotes tumour aggressiveness and drug resistance in African American prostate cancer. Nat. Commun. 8: 15921.
7. Tian, W., et al. 2018. MALAT1-miR663a negative feedback loop in colon cancer cell functions through direct miRNA-lncRNA binding. Cell Death Dis. 9: 857.
8. Garikipati, V.N.S., et al. 2019. Circular RNA CircFndc3b modulates cardiac repair after myocardial infarction via FUS/VEGF-A axis. Nat. Commun. 10: 4317.

RESEARCH USE

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