SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p110 (D-4): sc-8010

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.

CHROMOSOMAL LOCATION

Genetic locus: PIK3CB (human) mapping to 3q22.3.

SOURCE

PI 3-kinase p110 (D-4) is a mouse monoclonal antibody raised against amino acids 800-1039 of PI 3-kinase p110 of human origin.

PRODUCT

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

PI 3-kinase p110 (D-4) is available conjugated to agarose (sc-8010 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8010 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8010 PE), fluorescein (sc-8010 FITC), Alexa Fluor® 488 (sc-8010 AF488), Alexa Fluor® 546 (sc-8010 AF546), Alexa Fluor® 594 (sc-8010 AF594) or Alexa Fluor® 647 (sc-8010 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8010 AF680) or Alexa Fluor® 790 (sc-8010 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

PI 3-kinase p110 (D-4) is recommended for detection of PI 3-kinase p110 of 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)], 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).

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

Positive Controls: MG-63 whole cell lysate: sc-364784, K-562 whole cell lysate: sc-2203 or C32 whole cell lysate: sc-2205.

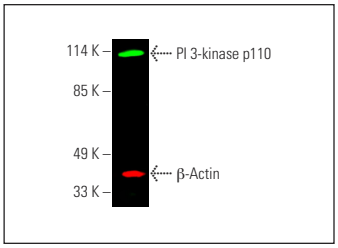
STORAGE

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

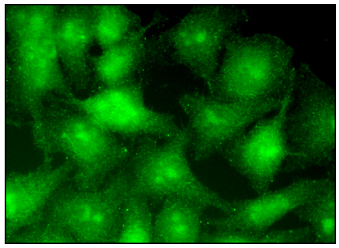
RESEARCH USE

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

DATA



Simultaneous direct near-infrared western blot analysis of PI 3-kinase p110 expression, detected with PI 3-kinase p110 (D-4) Alexa Fluor® 680: sc-8010 AF680 and β-Actin expression, detected with β-Actin (C4) Alexa Fluor® 790: sc-47778 AF790 in MG-63 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.



PI 3-kinase p110 (D-4): sc-8010. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

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2. Klein, B.Y., et al. 2011. PI3K/Akt responses to oxytocin stimulation in Caco2BB gut cells. J. Cell. Biochem. 112: 3216-3226.
3. Wu, M.H., et al. 2012. Endothelin-1 promotes MMP-13 production and migration in human chondrosarcoma cells through FAK/PI3K/Akt/mTOR pathways. J. Cell. Physiol. 227: 3016-3026.
4. Huang, C.Y., et al. 2013. Thrombin promotes matrix metalloproteinase-13 expression through the PKCδ c-Src/EGFR/PI3K/Akt/AP-1 signaling pathway in human chondrocytes. Mediators Inflamm. 2013: 326041.
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6. Bringhenti, I., et al. 2016. The Insulin-signaling pathway of the pancreatic islet is impaired in adult mice offspring of mothers fed a high-fat diet. Nutrition 32: 1138-1143.
7. Ge, S., et al. 2017. Function of miR-152 as a tumor suppressor in human breast cancer by targeting PIK3CA. Oncol. Res. 25: 1363-1371.
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9. Zhang, M.Y., et al. 2019. Effects of Beclin 1 overexpression on aggressive phenotypes of colon cancer cells. Oncol. Lett. 17: 2441-2450.

PROTOCOLS

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