

p-PDPK1 (Ser 241): sc-101775

BACKGROUND

PDPK1 (3-phosphoinositide dependent protein kinase 1), also known as PDK1, PDPK2, PDPK2P or PRO0461, is 556 amino acid ubiquitously expressed protein that localizes to the cell membrane, cytoplasm and nucleus. Acting as a master kinase, PDPK1 phosphorylates and activates a subgroup of the AGC family of protein kinases. PDPK1 is involved in mediating signal transduction for controlling proliferation, survival, and growth of developing pancreatic beta cells, regulating Ca²⁺ uptake and Ca²⁺-activated K⁺ channels of mast cells, regulation of chemotaxis and motility of vascular endothelial cells, cardiac homeostasis, and thymocyte development. Belonging to the protein kinase superfamily, PDPK1 contains a PH domain, which play an essential role in homodimerization, localization and nuclear import of PDPK1, and a protein kinase domain. PDPK1 exists as five alternatively spliced isoforms and is encoded by a gene located on human chromosome 16p13.3.

REFERENCES

- Burgering, B.M., et al. 1995. Protein kinase B (c-Akt) in phosphatidylinositol-3-OH kinase signal transduction. *Nature* 376: 599-602.
- Cross, D.A., et al. 1995. Inhibition of glycogen synthase kinase-3 by Insulin mediated by protein kinase B. *Nature* 378: 785-789.
- Wada, H., et al. 1995. Rejection antigen peptides on BALB/c RL male 1 leukemia recognized by cytotoxic T lymphocytes: derivation from the normally untranslated 5' region of the c-akt proto-oncogene activated by long terminal repeat. *Cancer Res.* 55: 4780-4783.
- Datta, K., et al. 1995. AH/PH domain-mediated interaction between Akt molecules and its potential role in Akt regulation. *Mol. Cell. Biol.* 15: 2304-2310.
- Franke, T.F., et al. 1995. The protein kinase encoded by the Akt proto-oncogene is a target of the PDGF-activated phosphatidylinositol 3-kinase. *Cell* 81: 727-736.

CHROMOSOMAL LOCATION

Genetic locus: PDPK1 (human) mapping to 16p13.3; Pdpk1 (mouse) mapping to 17 A3.3.

SOURCE

p-PDPK1 (Ser 241) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 241 phosphorylated of PDPK1 of human origin.

PRODUCT

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

STORAGE

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

PROTOCOLS

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

APPLICATIONS

p-PDPK1 (Ser 241) is recommended for detection of Ser 241 phosphorylated PDPK1 of human origin and correspondingly phosphorylated Ser 244 of mouse and rat origin 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PDPK1 siRNA (h): sc-29448, PDPK1 siRNA (m): sc-36242, PDPK1 shRNA Plasmid (h): sc-29448-SH, PDPK1 shRNA Plasmid (m): sc-36242-SH, PDPK1 shRNA (h) Lentiviral Particles: sc-29448-V and PDPK1 shRNA (m) Lentiviral Particles: sc-36242-V.

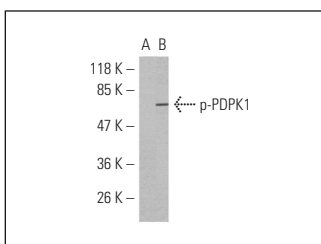
Molecular Weight of p-PDPK1: 60 kDa.

Positive Controls: EGF-treated MDA-MB-435 whole cell lysate or human breast carcinoma tissue extract.

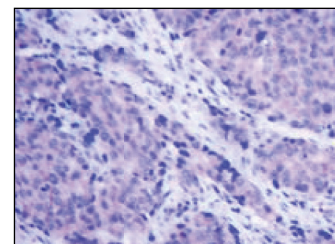
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-PDPK1 (Ser 241): sc-101775. Western blot analysis of phosphorylated p-PDPK1 expression in untreated (A) and EGF-treated (B) MDA-MB-435 whole cell lysates.



p-PDPK1 (Ser 241): sc-101775. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining.

SELECT PRODUCT CITATIONS

- Seal, S., et al. 2012. Vapor of volatile oils from *Litsea cubeba* seed induces apoptosis and causes cell cycle arrest in lung cancer cells. *PLoS ONE* 7: e47014.

RESEARCH USE

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