

PDPK1 (H-328): sc-9118

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 Ca^{2+} uptake and Ca^{2+} -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

1. Burgering, B.M., et al. 1995. Protein kinase B (c-Akt) in phosphatidylinositol-3-OH kinase signal transduction. *Nature* 376: 599-602.
2. 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.
3. 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.
4. 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

PDPK1 (H-328) is a rabbit polyclonal antibody raised against amino acids 229-556 mapping at the C-terminus of PDPK1 of human origin.

PRODUCT

Each vial contains 200 μ g 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.

RESEARCH USE

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

APPLICATIONS

PDPK1 (H-328) is recommended for detection of PDPK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

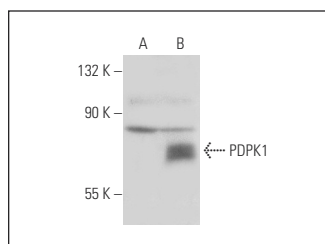
PDPK1 (H-328) is also recommended for detection of PDPK1 in additional species, including canine, bovine and porcine.

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.

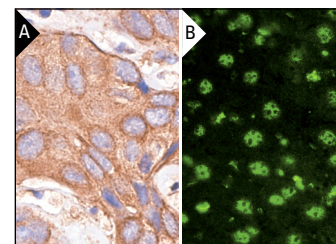
Molecular Weight of PDPK1: 68 kDa.

Positive Controls: PDPK1 (h3): 293T Lysate: sc-170755, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

DATA



PDPK1 (H-328): sc-9118. Western blot analysis of PDPK1 expression in non-transfected: sc-117752 (A) and human PDPK1 transfected: sc-170755 (B) 293T whole cell lysates.



PDPK1 (H-328): sc-9118. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing cytoplasmic and membrane staining (A). Immunofluorescence staining of normal mouse liver frozen section showing cytoplasmic and membrane staining (B).

SELECT PRODUCT CITATIONS

1. Li, L., et al. 2003. Caveolin-1 maintains activated Akt in prostate cancer cells through scaffolding domain binding site interactions with and inhibition of serine/threonine protein phosphatases PP1 and PP2A. *Mol. Cell. Biol.* 23: 9389-9404.
2. Hashimoto, M. 2004. β -synuclein regulates Akt activity in neuronal cells: a possible mechanism for neuroprotectin in Parkinson's disease. *J. Biol. Chem.* 279: 23622-23629.
3. Takayama, K., et al. 2009. Amyloid precursor protein is a primary androgen target gene that promotes prostate cancer growth. *Cancer Res.* 69: 137-142.



Try **PDPK1 (E-3): sc-17765** or **PDPK1 (A-10): sc-17766**, our highly recommended monoclonal alternatives to PDPK1 (H-328). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PDPK1 (E-3): sc-17765**.