PDK1 (C-20): sc-7140

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BIOTECHNOLOGY

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BACKGROUND

Mitochondrial pyruvate dehydrogenase (PDH) catalyzes the oxidative decarboxylation of pyruvate and plays a central role in the regulation of homeostasis of carbohydrate fuels in mammals. PDH activity is controlled by a phosphorylation/dephosphorylation cycle, in which phosphorylation leads to inactivation and dephosphorylation leads to reactivation of PDH. The phosphorylation of PDH is catalyzed by pyruvate dehydrogenase kinase (PDK), the activity of which is stimulated by the products of PDH catalysis. PDK1 consists of α and β subunits. The kinase activity resides in the α subunit. Three PDK isoenzymes have been identified in humans (PDK1, 2 and 3) and two have been identified in rodent (PDK1 and 2).

CHROMOSOMAL LOCATION

Genetic locus: PDK1 (human) mapping to 2q31.1; Pdk1 (mouse) mapping to 2 C3.

SOURCE

PDK1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PDK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7140 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PDK1 (C-20) is recommended for detection of precursor and mature PDK1 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PDK1 (C-20) is also recommended for detection of precursor and mature PDK1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PDK1 siRNA (h): sc-36203, PDK1 siRNA (m): sc-36204, PDK1 shRNA Plasmid (h): sc-36203-SH, PDK1 shRNA Plasmid (m): sc-36204-SH, PDK1 shRNA (h) Lentiviral Particles: sc-36203-V and PDK1 shRNA (m) Lentiviral Particles: sc-36204-V.

Molecular Weight of PDK1: 49 kDa.

Positive Controls: PDK1 (h): 293T Lysate: sc-113873 or rat heart extract: sc-2393.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA
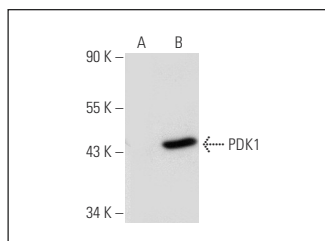
PDK1 (C-20): sc-7140. Western blot analysis of PDK1 expression in non-transfected: sc-117752 (**A**) and human PDK1 transfected: sc-171642 (**B**) 293T whole cell lysates.
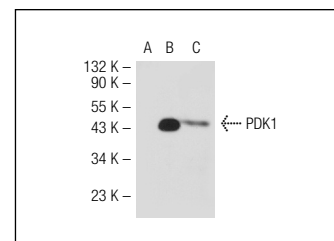
PDK1 (C-20): sc-7140. Western blot analysis of PDK1 expression in non-transfected: sc-117752 (**A**) and human PDK1 transfected: sc-113873 (**B**) 293T whole cell lysates and rat heart tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Sikder, D., et al. 2007. The neurohormone orexin stimulates hypoxia-inducible factor-1 activity. Genes Dev. 21: 2995-3005.

2. De Palma, S., et al. 2007. Metabolic modulation induced by chronic hypoxia in rats using a comparative proteomic analysis of skeletal muscle tissue. J. Proteome Res. 6: 1974-1984.

3. Rao, G., et al. 2015. Hemorrhagic shock-induced cerebral bioenergetic imbalance is corrected by pharmacologic treatment with EF24 in a rat model. Neuropharmacology 99: 318-327.

RESEARCH USE

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

PROTOCOLS

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

MONOS
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Try **PDK1 (4A11F5): sc-293160**, our highly recommended monoclonal alternative to PDK1 (C-20).