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, phosphorylation leading to inactivation and dephosphorylation leading 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).

REFERENCES


CHROMOSOMAL LOCATION

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

SOURCE

PDK1 (4A11F5) is a mouse monoclonal antibody raised against recombinant protein fragment corresponding to PDK1 of human origin.

PRODUCT

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

APPLICATIONS

PDK1 (4A11F5) is recommended for detection of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

STORAGE

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

DATA

PDK1 (4A11F5): sc-293160. Western blot analysis of PDK1 expression in NIH/3T3 (A), HeLa (B), Jurkat (C), Hep G2 (D), PC-12 (E) and COS7 (F) whole cell lysates.

SELECT PRODUCT CITATIONS


RESEARCH USE

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

PROTOCOLS

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