BACKGROUND

The pyruvate dehydrogenase (PDH) complex is a nuclear-encoded mitochondrial matrix enzyme complex that functions as the primary link between glycolysis and the tricarboxylic acid (TCA) cycle by catalyzing the irreversible conversion of pyruvate into acetyl-CoA, an essential step in aerobic glucose metabolism. PDH2 (pyruvate dehydrogenase α2), also known as PDHAL, is a 388 amino acid mitochondrial matrix protein expressed in postmeiotic spermatogenic cells. Composed of a tetramer containing two α and two β subunits, PDH2 consists of multiple copies of three enzymatic components: pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (E2) and lipoamide dehydrogenase (E3). PDH2 is suggested to participate in cell proliferation and may be involved in prostate cancer. PDH2 is encoded by a gene located on human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: Pdh2 (mouse) mapping to 3 H1.

SOURCE

PDH2 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 287-312 within an internal region of PDH2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG2b kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-393219 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PDH2 (B-3) is recommended for detection of PDH2 of mouse and rat origin by Western Blotting (starting dilution 1:100, 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 1:50-1:1500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:300).

Suitable for use as control antibody for PDH2 siRNA (m): sc-106393, PDH2 shRNA Plasmid (m): sc-106393-SH and PDH2 shRNA (m) Lentiviral Particles: sc-106393-V.

Molecular Weight of PDH2: 41 kDa.

Positive Controls: F9 cell lysate: sc-2245 or mouse testis extract: sc-2405.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgGκ BP-RTIC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA

PDH2 (B-3): sc-393219. Western blot analysis of PDH2 expression in F9 whole cell lysate (A) and mouse testis tissue extract (B).

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.

PROTOCOLS

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