SANTA CRUZ BIOTECHNOLOGY, INC.

PDHA2 (B-3): sc-393219

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. PDHA2 (pyruvate dehydrogenase α 2), 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, PDHA2 consists multiple copies of three enzymatic components: pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (E2) and lipoamide dehydrogenase (E3). PHDA2 is suggested to participate it in cell proliferation and may be involved in prostate cancer. PHDA2 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

1. Dahl, H.H., et al. 1990. A testis-specific form of the human pyruvate dehydrogenase E1 α subunit is coded for by an intronless gene on chromosome 4. Genomics 8: 225-232.
2. Brown, R.M., et al. 1990. Pyruvate dehydrogenase E1 α subunit genes in the mouse: mapping and comparison with human homologs. Somat. Cell Mol. Genet. 16: 487-492.
3. Online Mendelian Inheritance in Man, OMIM™. 1990. Johns Hopkins University, Baltimore, MD. MIM Number: 179061. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Pdha2 (mouse) mapping to 3 H1.

SOURCE

PDHA2 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 287-312 within an internal region of PDHA2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDHA2 (B-3) is available conjugated to agarose (sc-393219 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393219 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393219 PE), fluorescein (sc-393219 FITC), Alexa Fluor® 488 (sc-393219 AF488), Alexa Fluor® 546 (sc-393219 AF546), Alexa Fluor® 594 (sc-393219 AF594) or Alexa Fluor® 647 (sc-393219 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393219 AF680) or Alexa Fluor® 790 (sc-393219 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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).

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APPLICATIONS

PDHA2 (B-3) is recommended for detection of PDHA2 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 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PDHA2 siRNA (m): sc-106393, PDHA2 shRNA Plasmid (m): sc-106393-SH and PDHA2 shRNA (m) Lentiviral Particles: sc-106393-V.

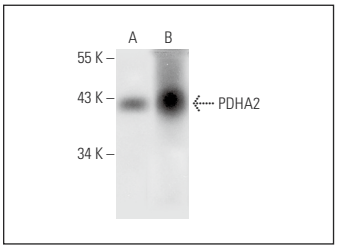
Molecular Weight of PDHA2: 41 kDa.

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, UltraCruz® Blocking Reagent: sc-516214 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-FITC: 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



PDHA2 (B-3): sc-393219. Western blot analysis of PDHA2 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 for detailed protocols and support products.