BACKGROUND

In mammals, four different isoenzymes exist for pyruvate kinase. Based on their tissue distribution, the isoenzymes are designated L-type (for predominant expression in the liver), R-type (for predominant expression in red blood cells), M1-type (for predominant expression in muscle, brain and heart) and M2-type (for predominant expression in fetal tissues). Pyruvate kinases are responsible for catalyzing the final step in glycolysis: the conversion of phosphoenolpyruvate to pyruvate with the coinciding generation of ATP. The PKLR (pyruvate kinase, liver and RBC) gene encodes the L- and R-type isoenzymes through alternative splicing events under the control of different promoters. The R-type isof orm, also known as RPK (R-type pyruvate kinase) exists as a tetramer and when functioning improperly, can result in chronic/hereditary nonspherocytic hemolytic anemia (CNSHA/HNSHA) or pyruvate kinase hyperactivity (alsocalledhighredcellATP syndrome). The L-type isof orm, alternatively known as PKL (pyruvate kinase L-type), also exists as a tetramer and is upregulated by glucose with implications in maturity-onset diabetes of the young (MODY).

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: PKLR (human) mapping to 1q22; Pklr (mouse) mapping to 3 F1.

SOURCE

PKLR (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-39 within an internal region of PKLR of human origin.

PRODUCT

Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PKLR (E-2) is available conjugated to agarose (sc-133222 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-132222 HRP), 200 µg/ml, for WB, IHC(Panel) and ELISA; to either phycocyanin (sc-133222 PE), fluorescein (sc-133222 FITC), Alexa Fluor® 488 (sc-133222 AF488), Alexa Fluor® 546 (sc-133222 AF546), Alexa Fluor® 594 (sc-133222 AF594) or Alexa Fluor® 647 (sc-133222 AF647), 200 µg/ml, for WB (RGB), IF, IHC(Panel) and FCM; and to either Alexa Fluor® 680 (sc-133222 AF680) or Alexa Fluor® 790 (sc-133222 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-133222 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PKLR (E-2) is recommended for detection of PKLR of mouse, rat and human 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), 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 1:30-1:300).

Suitable for use as control antibody for PKLR siRNA (h): sc-62818, PKLR siRNA (m): sc-62819, PKLR shRNA Plasmid (h): sc-62818-SH, PKLR shRNA Plasmid (m): sc-62819-SH, PKLR shRNA (h) Lentiviral Particles: sc-62818-V and PKLR shRNA (m) Lentiviral Particles: sc-62819-V.

Molecular Weight of PKLR R/L-type monomer: 63/59 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, c4 whole cell lysate: sc-364186 or PC-12 cell lysate: sc-2250.

DATA

SELECT PRODUCT CITATIONS


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.

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