

CARKL (G-16): sc-163974

BACKGROUND

CARKL, also known as SHPK (sedoheptulokinase), is a 478 amino acid protein that localizes to the cytoplasm and belongs to the FGGY family of protein kinases. Expressed at high levels in kidney, pancreas and liver and at lower levels in heart, placenta, brain and lung, CARKL functions at an optimal pH of 8.5 and catalyzes the ATP-dependent phosphorylation of sedoheptulose to yield sedoheptulose 7-phosphate, an intermediate in the pentose phosphate pathway. Once phosphorylated, sedoheptulose is unable to exit the cell via the cell membrane, resulting in the containment of sedoheptulose 7-phosphate within the cell. Defects in the gene encoding CARKL are associated with cystinosis, an autosomal recessive genetic disorder of the renal tubules that is characterized by excessive urination and low blood levels of phosphates and potassium.

REFERENCES

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- Kardon, T., et al. 2008. Characterization of mammalian sedoheptulokinase and mechanism of formation of erythritol in sedoheptulokinase deficiency. *FEBS Lett.* 582: 3330-3334.
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CHROMOSOMAL LOCATION

Genetic locus: SHPK (human) mapping to 17p13.2; Shpk (mouse) mapping to 11 B4.

SOURCE

CARKL (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CARKL 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-163974 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CARKL (G-16) is recommended for detection of CARKL of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CARKL (G-16) is also recommended for detection of CARKL in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CARKL siRNA (h): sc-93783, CARKL siRNA (m): sc-142012, CARKL shRNA Plasmid (h): sc-93783-SH, CARKL shRNA Plasmid (m): sc-142012-SH, CARKL shRNA (h) Lentiviral Particles: sc-93783-V and CARKL shRNA (m) Lentiviral Particles: sc-142012-V.

Molecular Weight of CARKL: 52 kDa.

Positive Controls: mouse colon extract: sc-364238.

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) 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.

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.