

SLC25A3 (F-1): sc-376742



The Power to Question

BACKGROUND

Inner membrane mitochondrial proteins are responsible for the transport of metabolites across the mitochondrial membrane. SLC25A3 (solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3), also known as PHC or PTP (phosphate transport protein), is a 362 amino acid multi-pass inner mitochondrial membrane protein that belongs to the mitochondrial carrier family. SLC25A3 transports phosphate groups (and cotransports H⁺) to the mitochondrial matrix from cytosol, and exists as two alternatively spliced isoforms designated SLC25A3 isoform A and B. Highly expressed in pancreas, skeletal muscle and heart, SLC25A3 contains three solcar repeats and is encoded by a gene that maps to human chromosome 12q23.1. Defects in the gene encoding SLC25A3 are linked to mitochondrial phosphate carrier deficiency (MPCD), a disorder of oxidative phosphorylation that leads to death within the first year of life.

CHROMOSOMAL LOCATION

Genetic locus: SLC25A3 (human) mapping to 12q23.1; Slc25a3 (mouse) mapping to 10 C2.

SOURCE

SLC25A3 (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 139-171 within an internal region of SLC25A3 of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-376742 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

SLC25A3 (F-1) is recommended for detection of SLC25A3 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 1:30-1:3000).

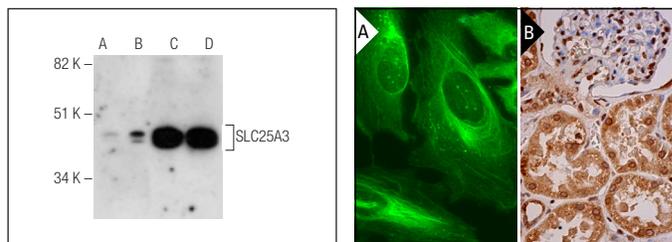
Suitable for use as control antibody for SLC25A3 siRNA (h): sc-95930, SLC25A3 siRNA (m): sc-153510, SLC25A3 shRNA Plasmid (h): sc-95930-SH, SLC25A3 shRNA Plasmid (m): sc-153510-SH, SLC25A3 shRNA (h) Lentiviral Particles: sc-95930-V and SLC25A3 shRNA (m) Lentiviral Particles: sc-153510-V.

Molecular Weight of SLC25A3: 40 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, SLC25A3 (h): 293T Lysate: sc-175591 or MEG-01 cell lysate: sc-2283.

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 L-Agarose: sc-2336 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA

SLC25A3 (F-1): sc-376742. Western blot analysis of SLC25A3 expression in non-transfected 293T: sc-117752 (A), human SLC25A3 transfected 293T: sc-175591 (B), K-562 (C) and MEG-01 (D) whole cell lysates.

SLC25A3 (F-1): sc-376742. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear staining of cells in glomeruli and cytoplasmic and perinuclear staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

- Wang, J., et al. 2016. Quantitative chemical proteomics profiling of *de novo* protein synthesis during starvation-mediated autophagy. *Autophagy* 12: 1931-1944.
- Solier, S., et al. 2023. A druggable copper-signalling pathway that drives inflammation. *Nature* 617: 386-394.
- Barreca, F., et al. 2023. SIRT5 activation and inorganic phosphate binding reduce cancer cell vitality by modulating autophagy/mitophagy and ROS. *Antioxidants* 12: 1635.

STORAGE

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

PROTOCOLS

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