

SLC25A25 (4D8): sc-517143

BACKGROUND

SLC25A25 (solute carrier family 25 member 25), also known as MCSC (mitochondrial calcium-dependent solute carrier protein), PCSCL or SCaMC-2 (small calcium-binding mitochondrial carrier protein 2), is a 469 amino acid multi-pass membrane protein that belongs to the the SLC25 family of mitochondrial carriers that are responsible for transporting metabolites across the inner mitochondrial membrane. Expressed in a wide variety of tissues and localized to the mitochondrion inner membrane, SLC25A25 contains three solcar repeats and three EF-hand domains and functions as a calcium-dependent mitochondrial solute carrier. More specifically, SLC25A25 acts as an ATP-Mg/P_i co-transporter, facilitating the transport of Mg-ATP in exchange for phosphate. Due to alternative splicing events, six isoforms exist for SLC25A25, namely SCaMC-2a, SCaMC-2b, isoform 3, SCaMC-2c, isoform 5 and SCaMC-2d. SCaMC-2a is ubiquitously expressed while SCaMC-2b expression is limited to lung and kidney.

REFERENCES

1. Nagase, T., et al. 2001. Prediction of the coding sequences of unidentified human genes. XXI. The complete sequences of 60 new cDNA clones from brain which code for large proteins. DNA Res. 8: 179-187.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608745. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Mashima, H., et al. 2003. A novel mitochondrial Ca²⁺-dependent solute carrier in the liver identified by mRNA differential display. J. Biol. Chem. 278: 9520-9527.
4. del Arco, A. and Satrustegui, J. 2004. Identification of a novel human subfamily of mitochondrial carriers with calcium-binding domains. J. Biol. Chem. 279: 24701-24713.
5. Fiermonte, G., et al. 2004. Identification of the mitochondrial ATP-Mg/P_i transporter. Bacterial expression, reconstitution, functional characterization, and tissue distribution. J. Biol. Chem. 279: 30722-30730.
6. Del Arco, A. 2005. Novel variants of human SCaMC-3, an isoform of the ATP-Mg/P_i mitochondrial carrier, generated by alternative splicing from 3'-flanking transposable elements. Biochem. J. 389: 647-655.
7. Bassi, M.T., et al. 2005. Cellular expression and alternative splicing of SLC25A23, a member of the mitochondrial Ca²⁺-dependent solute carrier gene family. Gene 345: 173-182.

CHROMOSOMAL LOCATION

Genetic locus: SLC25A25 (human) mapping to 9q34.11; Slc25a25 (mouse) mapping to 2 B.

SOURCE

SLC25A25 (4D8) is a mouse monoclonal antibody raised against amino acids 2-110 representing partial length SLC25A25 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SLC25A25 (4D8) is recommended for detection of SLC25A25 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SLC25A25 siRNA (h): sc-92973, SLC25A25 siRNA (m): sc-153508, SLC25A25 shRNA Plasmid (h): sc-92973-SH, SLC25A25 shRNA Plasmid (m): sc-153508-SH, SLC25A25 shRNA (h) Lentiviral Particles: sc-92973-V and SLC25A25 shRNA (m) Lentiviral Particles: sc-153508-V.

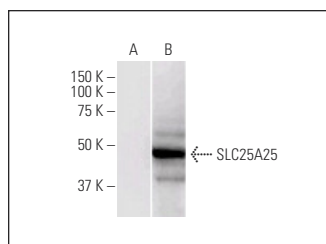
Molecular Weight of SLC25A25: 53 kDa.

Positive Controls: SLC25A25 transfected 293T whole cell lysate.

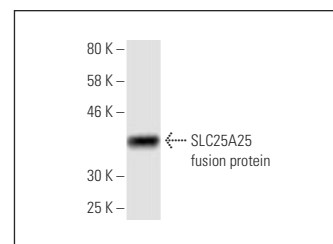
RECOMMENDED SUPPORT REAGENTS

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).

DATA



SLC25A25 (4D8): sc-517143. Western blot analysis of SLC25A25 expression in non-transfected (A) and SLC25A25 transfected (B) 293T whole cell lysates.



SLC25A25 (4D8): sc-517143. Western blot analysis of human recombinant SLC25A25 fusion protein.

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.