

# SLC25A20 (G-18): sc-103220

## BACKGROUND

SLC25A20 (solute carrier family 25 (carnitine/acylcarnitine translocase), member 20) is a 301 amino acid multi-pass membrane protein that belongs to the mitochondrial carrier family. Containing three Solcar repeats, SLC25A20 mediates the transport of acylcarnitines of different length across the mitochondrial inner membrane from the cytosol to the mitochondrial matrix for their oxidation by the mitochondrial fatty acid-oxidation pathway. Defects in SLC25A20 are the cause of carnitine-acylcarnitine translocase deficiency (CACT deficiency), which is an autosomal recessive deficiency in mitochondrial oxidation of fatty acids. It is usually lethal within a few hours or days after birth. Symptoms characterizing its normally severe clinical phenotype include fatty hepatomegaly with abnormal liver function, cardiomyopathy, muscle weakness and episodes of life-threatening coma, which eventually lead to death. The SLC25A20 gene is conserved in chimpanzee, bovine, mouse, rat, zebrafish, fruit fly, mosquito, *C. elegans*, *S. cerevisiae*, *K. lactis*, *E. gossypii*, *M. grisea*, *N. crassa*, *A. thaliana* and rice, and maps to human chromosome 3p21.31.

## REFERENCES

- Huizing, M., et al. 1997. Cloning of the human carnitine-acylcarnitine carrier cDNA and identification of the molecular defect in a patient. *Am. J. Hum. Genet.* 61: 1239-1245.
- Iacobazzi, V., et al. 1998. The structure and organization of the human carnitine/acylcarnitine translocase (CACT1) gene. *Biochem. Biophys. Res. Commun.* 252: 770-774.
- Huizing, M., et al. 1998. Carnitine-acylcarnitine carrier deficiency: identification of the molecular defect in a patient. *J. Inherit. Metab. Dis.* 21: 262-267.
- Costa, C., et al. 1999. Identification of the molecular defect in a severe case of carnitine-acylcarnitine carrier deficiency. *J. Inherit. Metab. Dis.* 22: 267-270.
- Ogawa, A., et al. 2000. Identification of two novel mutations of the carnitine/acylcarnitine translocase (CACT) gene in a patient with CACT deficiency. *J. Hum. Genet.* 45: 52-55.

## CHROMOSOMAL LOCATION

Genetic locus: SLC25A20 (human) mapping to 3p21.31; Slc25a20 (mouse) mapping to 9 F2.

## SOURCE

SLC25A20 (G-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of SLC25A20 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-103220 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SLC25A20 (G-18) is recommended for detection of SLC25A20 of mouse 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)], 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); non cross-reactive with other SLC25A family members.

SLC25A20 (G-18) is also recommended for detection of SLC25A20 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SLC25A20 siRNA (h): sc-78217, SLC25A20 siRNA (m): sc-153504, SLC25A20 shRNA Plasmid (h): sc-78217-SH, SLC25A20 shRNA Plasmid (m): sc-153504-SH, SLC25A20 shRNA (h) Lentiviral Particles: sc-78217-V and SLC25A20 shRNA (m) Lentiviral Particles: sc-153504-V.

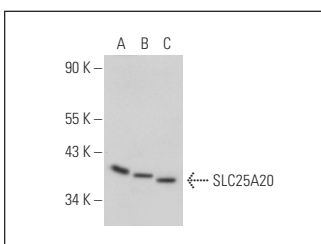
Molecular Weight of SLC25A20: 33 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HT-1080 whole cell lysate: sc-364183 or mouse cerebellum extract: sc-2403.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



SLC25A20 (G-18): sc-103220. Western blot analysis of SLC25A20 expression in Jurkat (A) and HT-1080 (B) whole cell lysates and mouse cerebellum tissue extract (C).

## 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.