

# DIC (K-14): sc-160282

## BACKGROUND

DIC (dicarboxylate ion carrier), also known as solute carrier family 25 member 10 (SLC25A10) or mitochondrial dicarboxylate carrier, is a 287 amino acid multi-pass membrane protein that localizes to mitochondrial inner membrane and belongs to the mitochondrial carrier family. DIC supplies substrates for gluconeogenesis, urea synthesis, sulfur metabolism and the Krebs cycle by catalyzing the transport of dicarboxylates across the mitochondrial membrane in exchange for sulfate, thiosulfate, sulfite or phosphate. DIC also supplies malate during citrate transport and is required for fatty acid synthesis. Inhibition of DIC causes down-regulation of the lipogenic pathway. Highly expressed in kidney and liver, DIC is also found at lower levels in brain, lung, pancreas, spleen and heart. DIC contains three Solcar repeats and is encoded by a gene that maps to human chromosome 17q25.3. As a result of alternative splicing events, two DIC isoforms exist.

## REFERENCES

1. Pannone, E., et al. 1998. Assignment of the human dicarboxylate carrier gene (DIC) to chromosome 17 band 17q25.3. *Cytogenet. Cell Genet.* 83: 238-239.
2. Fiermonte, G., et al. 1999. Organization and sequence of the gene for the human mitochondrial dicarboxylate carrier: evolution of the carrier family. *Biochem. J.* 344: 953-960.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606794. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Mizuarai, S., et al. 2005. Identification of dicarboxylate carrier Slc25a10 as malate transporter in *de novo* fatty acid synthesis. *J. Biol. Chem.* 280: 32434-32441.
5. Lash, L.H. 2006. Mitochondrial glutathione transport: physiological, pathological and toxicological implications. *Chem. Biol. Interact.* 163: 54-67.

## CHROMOSOMAL LOCATION

Genetic locus: SLC25A10 (human) mapping to 17q25.3; Slc25a10 (mouse) mapping to 11 E2.

## SOURCE

DIC (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DIC 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-160282 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

DIC (K-14) is recommended for detection of DIC 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).

DIC (K-14) is also recommended for detection of DIC in additional species, including equine.

Suitable for use as control antibody for DIC siRNA (h): sc-93937, DIC siRNA (m): sc-143038, DIC shRNA Plasmid (h): sc-93937-SH, DIC shRNA Plasmid (m): sc-143038-SH, DIC shRNA (h) Lentiviral Particles: sc-93937-V and DIC shRNA (m) Lentiviral Particles: sc-143038-V.

Molecular Weight of DIC: 32 kDa.

## 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.