

DLST (D-16): sc-242583

BACKGROUND

The 2-oxoglutarate dehydrogenase complex catalyzes the overall conversion of 2-oxoglutarate to succinyl-CoA and CO₂. The complex contains multiple copies of three enzymatic components: 2-oxoglutarate dehydrogenase (E1), dihydrolipoamide succinyltransferase (E2) and lipoamide dehydrogenase (E3). DLST (dihydrolipoamide succinyltransferase component of 2-oxoglutarate dehydrogenase complex, mitochondrial), also known as DLTS or 2-oxoglutarate dehydrogenase complex component E2, is a 453 amino acid protein belonging to the 2-oxoacid dehydrogenase family. DLST covalently binds one lipoyl cofactor and participates in L-lysine degradation via the saccharopine pathway. Localized to the mitochondrion, DLST forms a 24-polypeptide structural core with octahedral symmetry. The gene encoding DLST maps to human chromosome 14q24.3 and mouse chromosome 12 D2.

REFERENCES

- Nakano, K., et al. 1994. Isolation, characterization and structural organization of the gene and pseudogene for the dihydrolipoamide succinyltransferase component of the human 2-oxoglutarate dehydrogenase complex. *Eur. J. Biochem.* 224: 179-189.
- McCartney, R.G., et al. 1998. Subunit interactions in the mammalian α -ketoglutarate dehydrogenase complex. Evidence for direct association of the α -ketoglutarate dehydrogenase and dihydrolipoamide dehydrogenase components. *J. Biol. Chem.* 273: 24158-24164.
- Kanamori, T., et al. 2003. Truncated product of the bifunctional DLST gene involved in biogenesis of the respiratory chain. *EMBO J.* 22: 2913-2923.
- Habelhah, H., et al. 2004. Regulation of 2-oxoglutarate (α -ketoglutarate) dehydrogenase stability by the RING finger ubiquitin ligase Siah. *J. Biol. Chem.* 279: 53782-53788.
- Brown, A.M., et al. 2004. Substantial linkage disequilibrium across the dihydrolipoamide succinyltransferase gene region without Alzheimer's disease association. *Neurochem. Res.* 29: 629-635.
- Yang, L., et al. 2009. Mice deficient in dihydrolipoamide succinyl transferase show increased vulnerability to mitochondrial toxins. *Neurobiol. Dis.* 36: 320-330.

CHROMOSOMAL LOCATION

Genetic locus: DLST (human) mapping to 14q24.3; Dlst (mouse) mapping to 12 D2.

SOURCE

DLST (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DLST of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-242583 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DLST (D-16) is recommended for detection of DLST of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

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

Suitable for use as control antibody for DLST siRNA (h): sc-92198, DLST siRNA (m): sc-143057, DLST shRNA Plasmid (h): sc-92198-SH, DLST shRNA Plasmid (m): sc-143057-SH, DLST shRNA (h) Lentiviral Particles: sc-92198-V and DLST shRNA (m) Lentiviral Particles: sc-143057-V.

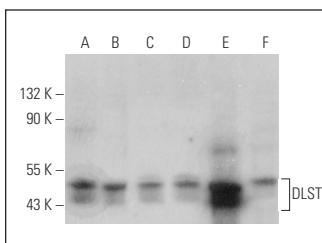
Molecular Weight of DLST: 49 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

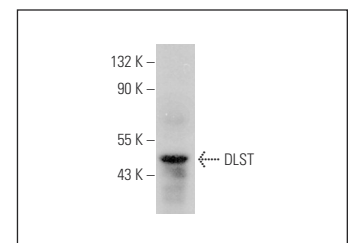
RECOMMENDED SECONDARY REAGENTS

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



DLST (D-16): sc-242583. Western blot analysis of DLST expression in A-431 (A), Hep G2 (B), HeLa (C) and MCF7 (D) whole cell lysates and human liver (E) and human tonsil (F) tissue extracts.



DLST (D-16): sc-242583. Western blot analysis of DLST expression in mouse heart tissue extract.

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.