

DCI (E-8): sc-518208

BACKGROUND

DCI (Dodecenoyl-CoA isomerase) is a 302 amino acid protein that localizes to the mitochondrial matrix and belongs to the enoyl-CoA hydratase/isomerase family. Existing as a homotrimer, DCI functions to catalyze the transformation of both 3-*trans* and 3-*cis* double bonds into 2-*trans* double bonds in a variety of enoyl-CoA proteins. The catalytic activity of DCI is essential for the β -oxidation of unsaturated fatty acids and for proper lipid metabolism. DCI exists as two alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 16, which houses over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Kilponen, J.M., et al. 1994. cDNA cloning and amino acid sequence of human mitochondrial δ 3 δ 2-enoyl-CoA isomerase: comparison of the human enzyme with its rat counterpart, mitochondrial short-chain isomerase. *Biochem. J.* 300: 1-5.
2. Janssen, U., et al. 1994. Human mitochondrial 3,2-*trans*-enoyl-CoA isomerase (DCI): gene structure and localization to chromosome 16p13.3. *Genomics* 23: 223-228.
3. He, X.Y. and Yang, S.Y. 1997. Glutamate-119 of the large α -subunit is the catalytic base in the hydration of 2-*trans*-enoyl-coenzyme A catalyzed by the multienzyme complex of fatty acid oxidation from *Escherichia coli*. *Biochemistry* 36: 11044-11049.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600305. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: ECI1 (human) mapping to 16p13.3.

SOURCE

DCI (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 254-277 of DCI of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DCI (E-8) is available conjugated to agarose (sc-518208 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518208 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518208 PE), fluorescein (sc-518208 FITC), Alexa Fluor[®] 488 (sc-518208 AF488), Alexa Fluor[®] 546 (sc-518208 AF546), Alexa Fluor[®] 594 (sc-518208 AF594) or Alexa Fluor[®] 647 (sc-518208 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518208 AF680) or Alexa Fluor[®] 790 (sc-518208 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DCI (E-8) is recommended for detection of DCI of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for DCI siRNA (h): sc-93112, DCI shRNA Plasmid (h): sc-93112-SH and DCI shRNA (h) Lentiviral Particles: sc-93112-V.

Molecular Weight of DCI: 33 kDa.

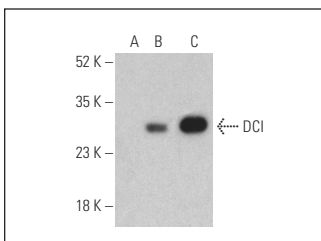
Positive Controls: DCI (h): 293T Lysate: sc-111200 or COLO 320DM cell lysate: sc-2226.

RECOMMENDED SUPPORT REAGENTS

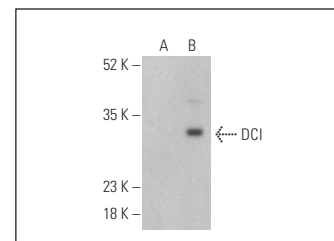
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



DCI (E-8): sc-518208. Western blot analysis of DCI expression in non-transfected 293T: sc-117752 (A), human DCI transfected 293T: sc-111200 (B) and COLO 320DM (C) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-525408.



DCI (E-8): sc-518208. Western blot analysis of DCI expression in non-transfected: sc-117752 (A) and human DCI transfected: sc-111200 (B) 293T whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.

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.

PROTOCOLS

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