

citrate synthase (E-2): sc-515640

BACKGROUND

Citrate synthase (CS) is a 466 amino acid mitochondrial matrix protein that functions as the first and rate-limiting enzyme of the tricarboxylic acid cycle. Essential in mitochondrial respiration and involved in the conversion of glucose to lipid, citrate synthase is found in the great majority of cells that are capable of oxidative metabolism. The gene encoding citrate synthase maps to human chromosome 12q13.3, which is transcribed into two alternatively spliced variants designated CSa and CSb. Human chromosome 12 encodes over 1,100 genes, comprises approximately 4.5% of the human genome and is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

CHROMOSOMAL LOCATION

Genetic locus: CS (human) mapping to 12q13.3; Cs (mouse) mapping to 10 D3.

SOURCE

citrate synthase (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 145-170 within an internal region of citrate synthase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515640 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

citrate synthase (E-2) is recommended for detection of citrate synthase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 citrate synthase siRNA (h): sc-96228, citrate synthase siRNA (m): sc-142349, citrate synthase shRNA Plasmid (h): sc-96228-SH, citrate synthase shRNA Plasmid (m): sc-142349-SH, citrate synthase shRNA (h) Lentiviral Particles: sc-96228-V and citrate synthase shRNA (m) Lentiviral Particles: sc-142349-V.

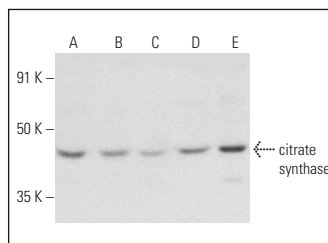
Molecular Weight of citrate synthase: 52 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caco-2 cell lysate: sc-2262 or A-673 cell lysate: sc-2414.

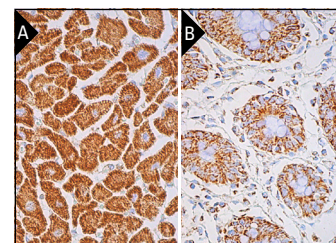
RECOMMENDED SUPPORT REAGENTS

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, 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



citrate synthase (E-2): sc-515640. Western blot analysis of citrate synthase expression in Hep G2 (A), HeLa (B), Caco-2 (C) and A-673 (D) whole cell lysates and mouse brain tissue extract (E).



citrate synthase (E-2): sc-515640. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (A), and of human rectum tissue showing cytoplasmic staining of glandular cells (B). Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Gorini, G., et al. 2021. Au₂phen and Auoxo6, two dinuclear oxo-bridged gold(III) compounds, induce apoptotic signaling in human ovarian A2780 cancer cells. *Biomedicines* 9: 871.

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.



See **citrate synthase (G-3): sc-390693** for citratesynthase antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.