

sarcosine dehydrogenase (Z-25): sc-133985

BACKGROUND

Sarcosine dehydrogenase, also known as SARDH, SAR, SDH, SARD or DMGDHL1, is a 918 amino acid protein that localizes to the mitochondrial matrix and is involved in the amine and polyamine degradation pathway. Using FAD as a cofactor, sarcosine dehydrogenase catalyzes the oxidative demethylation of sarcosine, a reaction that results in the formation of formaldehyde and glycine from sarcosine. Defects in the gene encoding sarcosine dehydrogenase are associated with sarcosinemia, a relatively benign metabolic disorder characterized by excess sarcosine in plasma and urine. The gene encoding sarcosine dehydrogenase maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome.

REFERENCES

- Porter, D.H., et al. 1985. Enzymatic properties of dimethylglycine dehydrogenase and sarcosine dehydrogenase from rat liver. *Arch. Biochem. Biophys.* 243: 396-407.
- London, R.E., et al. 1987. Metabolism of excess methionine in the liver of intact rat: an *in vivo* 2H NMR study. *Biochemistry* 26: 7166-7172.
- Harding, C.O., et al. 1992. SAR: a genetic mouse model for human sarcosinemia generated by ethylnitrosourea mutagenesis. *Proc. Natl. Acad. Sci. USA* 89: 2644-2648.
- Brunialti, A.L., et al. 1996. The mouse mutation sarcosinemia (SAR) maps to chromosome 2 in a region homologous to human 9q33-q34. *Genomics* 36: 182-184.
- Bergeron, F., et al. 1998. Molecular cloning and tissue distribution of rat sarcosine dehydrogenase. *Eur. J. Biochem.* 257: 556-561.
- Eschenbrenner, M. and Jorns, M.S. 1999. Cloning and mapping of the cDNA for human sarcosine dehydrogenase, a flavoenzyme defective in patients with sarcosinemia. *Genomics* 59: 300-308.

CHROMOSOMAL LOCATION

Genetic locus: SARDH (human) mapping to 9q34.2; Sardh (mouse) mapping to 2 A3.

SOURCE

sarcosine dehydrogenase (Z-25) is a Protein A purified rabbit polyclonal antibody raised against synthetic sarcosine dehydrogenase peptide of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

sarcosine dehydrogenase (Z-25) is recommended for detection of sarcosine dehydrogenase of mouse, rat, human, zebrafish and canine 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), 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 sarcosine dehydrogenase siRNA (h): sc-92624, sarcosine dehydrogenase siRNA (m): sc-153223, sarcosine dehydrogenase shRNA Plasmid (h): sc-92624-SH, sarcosine dehydrogenase shRNA Plasmid (m): sc-153223-SH, sarcosine dehydrogenase shRNA (h) Lentiviral Particles: sc-92624-V and sarcosine dehydrogenase shRNA (m) Lentiviral Particles: sc-153223-V.

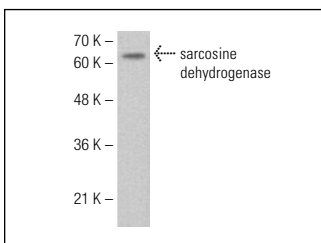
Molecular Weight of sarcosine dehydrogenase: 67 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

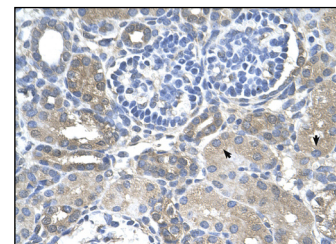
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



sarcosine dehydrogenase (Z-25): sc-133985. Western blot analysis of sarcosine dehydrogenase expression in Hep G2 whole cell lysate.



sarcosine dehydrogenase (Z-25): sc-133985. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing cytoplasmic localization.

RESEARCH USE

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