SANTA CRUZ BIOTECHNOLOGY, INC.

DHODH (m2): 293T Lysate: sc-119762

BACKGROUND

DHODH (dihydroorotate dehydrogenase), also known as DHOdehase, is a 395 amino acid mitochondrial protein located on the outer surface of the inner mitochondrial membrane. It catalyzes the fourth enzymatic step in *de novo* pyrimidine biosynthesis. *De novo* pyrimidine synthesis is a critical metabolic pathway for nucleic acid synthesis and is a target for various cancer chemotherapy agents. Additionally, DHODH is functionally connected to the respiratory chain, delivering electrons to ubiquinone. DHODH contains a bipartite signal at the N-terminus that regulates passage into the mitochondrial inner membrane. The inhibition of Cox (cytochrome c oxidase) by nitric oxide (NO) indirectly inhibits DHODH activity. The inhibition of DHODH has an immunosuppressive and an antiproliferative effect on diseases such as rheumatoid arthritis.

REFERENCES

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3. Knecht, W., et al. 1996. Functional expression of a fragment of human dihydroorotate dehydrogenase by means of the baculovirus expression vector system, and kinetic investigation of the purified recombinant enzyme. Eur. J. Biochem. 240: 292-301.
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5. Dietz, C., et al. 2000. Immunocytochemical detection of mitochondrial dihydroorotate dehydrogenase in human spermatozoa. Int. J. Androl. 23: 294-299.
6. Rawls, J., et al. 2000. Requirements for the mitochondrial import and localization of dihydroorotate dehydrogenase. Eur. J. Biochem. 267: 2079-2087.
7. Small, Y.A., et al. 2006. Hydrogen bonding pathways in human dihydroorotate dehydrogenase. J. Phys. Chem. B 110: 19704-19710.
8. Baumgartner, R., et al. 2006. Dual binding mode of a novel series of DHODH inhibitors. J. Med. Chem. 49: 1239-1247.
9. Zameitat, E., et al. 2007. Functional expression of human dihydroorotate dehydrogenase (DHODH) in pyr4 mutants of *Ustilago maydis* allows target validation of DHODH inhibitors *in vivo*. Appl. Environ. Microbiol. 73: 3371-3379.

CHROMOSOMAL LOCATION

Genetic locus: Dhodh (mouse) mapping to 8 D3.

PRODUCT

DHODH (m2): 293T Lysate represents a lysate of mouse DHODH transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

DHODH (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive DHODH antibodies. Recommended use: 10-20 µl per lane.

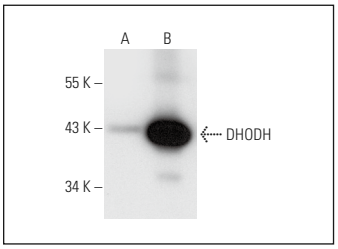
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

DHODH (E-8): sc-166348 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse DHODH expression in DHODH transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



DHODH (E-8): sc-166348. Western blot analysis of DHODH expression in non-transfected: sc-117752 (**A**) and mouse DHODH transfected: sc-119762 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.