SANTA CRUZ BIOTECHNOLOGY, INC.

MDHC (G-20): sc-49233

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytosolic malate dehydrogenase (MDHC or cMDH) is an important NAD-dependent enzyme involved in glycometabolism that catalyzes the formation of oxaloacetate and NADH from L-malate and NAD. MDHC is highly expressed in brain, heart and skeletal muscle and plays a role in aerobic energy production for muscle contraction, transmission of neuronal signals, absorption/resorption pathways, collagen-supporting functions, dead cell phagocytosis, as well as pathways involved in gas exchange and cell division. Furthermore, MDHC is a regulatory subunit of the nucleic acid-conducting channel (NACh). MDHC functions as a homodimer and is highly conserved in plants, animals and bacteria. The activity of MDHC is controlled by the sesquiterpenoid juvenile hormone (JH) and the steroid hormone ecdysone.

REFERENCES

1. Drmota, T., et al. 1997. Isolation and characterization of cytosolic malate dehydrogenase from *Trichomonas vaginalis*. Folia Parasitol. 44: 103-108.
2. Farkas, R. and Knopp, J. 1998. Genetic and hormonal control of cytosolic malate dehydrogenase activity in *Drosophila melanogaster*. Gen. Physiol. Biophys. 17: 37-50.
3. Fahien, L.A., et al. 1999. Ability of cytosolic malate the ratio of NADPH to NADH oxidation by cytosolic glycerol-3-phosphate dehydrogenase. Arch. Biochem. Biophys. 364: 185-194.
4. Hanss, B., et al. 2002. Cytosolic malate dehydrogenase confers selectivity of the nucleic acid-conducting channel. Proc. Nat. Acad. Sci. USA 99: 1707-1712.
5. Merrit, T.J., et al. 2003. Evolution of the vertebrate cytosolic malate dehydrogenase gene family: duplication and divergence in actinopterygian fish. J. Mol. Evol. 56: 265-276.
6. Krzakowa, M. and Matras, J. 2005. Genetic variability among beech *(Fagus sylvatica L.)* populations from the Sudety Mountains, in respect of peroxidase and malate dehydrogenase loci. J. Appl. Genet. 46: 271-277.

CHROMOSOMAL LOCATION

Genetic locus: MDH1 (human) mapping to 2p15; Mdh1 (mouse) mapping to 11 A3.1.

SOURCE

MDHC (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MDHC of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-49233 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MDHC (G-20) is recommended for detection of MDHC (malate dehydrogenase, cytoplasmic) of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

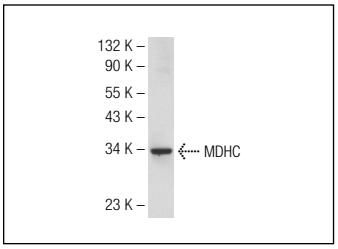
MDHC (G-20) is also recommended for detection of MDHC (malate dehydrogenase, cytoplasmic) in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MDHC siRNA (h): sc-61012, MDHC siRNA (m): sc-61013, MDHC shRNA Plasmid (h): sc-61012-SH, MDHC shRNA Plasmid (m): sc-61013-SH, MDHC shRNA (h) Lentiviral Particles: sc-61012-V and MDHC shRNA (m) Lentiviral Particles: sc-61013-V.

Molecular Weight of MDHC: 36 kDa.

Positive Controls: Hs 181 Tes whole cell lysate: sc-364779, HL-60 whole cell lysate: sc-2209 or Jurkat whole cell lysate: sc-2204.

DATA



MDHC (G-20): sc-49233. Western blot analysis of MDHC expression in Hs 181 Tes whole cell lysate.

RESEARCH USE

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

PROTOCOLS

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