

MDH2 (A-22): sc-133777

BACKGROUND

MDH2 (malate dehydrogenase, NAD mitochondrial), also known as MDH, MOR1 or M-MDH, is a 338 amino acid that belongs to the LDH/MDH superfamily. MDH2 localizes to the mitochondria and may play a critical role in the malate-aspartate shuttle that operates in the metabolic coordination between cytosol and mitochondria. MDH2 utilizes the NAD/NADH cofactor system in the citric acid cycle to catalyze the reversible oxidation of malate to oxaloacetate. Oxaloacetate is involved in many important metabolic pathways including amino acid synthesis, gluconeogenesis and facilitation of the exchange of metabolites between cytoplasm and subcellular organelles.

REFERENCES

1. Brenicka, E.A., et al. 1983. Tissue origin of MDH isozymes in blood serum of rats exposed to alkylmercurials. *J. Appl. Toxicol.* 3: 180-184.
2. Winiewska, W. and Lukasiuk, M. 1985. Malate dehydrogenase and its isoenzymes in the peripheral blood leukocytes in progressive muscular dystrophy of the Duchenne type. *Neurol. Neurochir. Pol.* 19: 318-322.
3. Minard, K.I. and McAlister-Henn, L. 1994. Glucose-induced phosphorylation of the MDH2 isozyme of malate dehydrogenase in *Saccharomyces cerevisiae*. *Arch. Biochem. Biophys.* 315: 302-309.
4. Goward, C.R. and Nicholls, D.J. 1994. Malate dehydrogenase: a model for structure, evolution, and catalysis. *Protein Sci.* 3: 1883-1888.
5. McAlister-Henn, L., et al. 1995. Expression and function of a mislocalized form of peroxisomal malate dehydrogenase (MDH3) in yeast. *J. Biol. Chem.* 270: 21220-21225.
6. Sugiuchi, H., et al. 1996. A novel automated assay for malate dehydrogenase isoenzymes. *J. Clin. Lab. Anal.* 10: 78-84.
7. Pines, O., et al. 1997. Overexpression of cytosolic malate dehydrogenase (MDH2) causes overproduction of specific organic acids in *Saccharomyces cerevisiae*. *Appl. Microbiol. Biotechnol.* 48: 248-255.

CHROMOSOMAL LOCATION

Genetic locus: MDH2 (human) mapping to 7q11.23; Mdh2 (mouse) mapping to 5 G2.

SOURCE

MDH2 (A-22) is a Protein A purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of MDH2 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.

RESEARCH USE

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

APPLICATIONS

MDH2 (A-22) is recommended for detection of MDH2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MDH2 (A-22) is also recommended for detection of MDH2 in additional species, including equine, bovine and canine.

Suitable for use as control antibody for MDH2 siRNA (h): sc-89622, MDH2 siRNA (m): sc-149339, MDH2 shRNA Plasmid (h): sc-89622-SH, MDH2 shRNA Plasmid (m): sc-149339-SH, MDH2 shRNA (h) Lentiviral Particles: sc-89622-V and MDH2 shRNA (m) Lentiviral Particles: sc-149339-V.

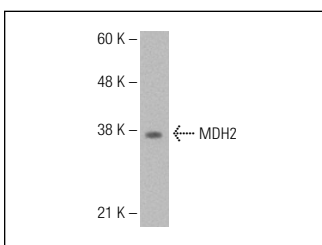
Molecular Weight of MDH2: 36 kDa.

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).

DATA



MDH2 (A-22): sc-133777. Western blot analysis of MDH2 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Schwab, K., et al. 2011. Dietary phytoestrogen supplementation induces sex differences in the myocardial protein pattern of mice: a comparative proteomics study. *Proteomics* 11: 3887-3904.

MONOS
Satisfaction
Guaranteed

Try **MDH2 (1G12): sc-293474**, our highly recommended monoclonal alternative to MDH2 (A-22).