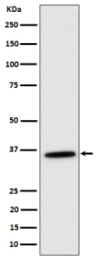
MDH2 Antibody / Malate dehydrogenase 2 [clone 29M83] (FY12284)

Catalog No.	Formulation	Size
FY12284	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	29M83
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P40926
Applications	Western blot: 1:500-1:2000 Immunohistochemistry: 1:50-1:200
Limitations	This MDH2 antibody is available for research use only.



Western blot analysis of MDH2 expression in K562 cell lysate using MDH2 antibody. Predicted molecular weight ~36 kDa.

Description

MDH2 antibody is designed to detect malate dehydrogenase 2, a mitochondrial enzyme critical for cellular energy metabolism. MDH2 is a key enzyme of the tricarboxylic acid (TCA) cycle, also known as the Krebs cycle, where it

catalyzes the reversible conversion of malate to oxaloacetate using NAD+ as a cofactor. This reaction is essential for maintaining the balance of reducing equivalents and for fueling oxidative phosphorylation in mitochondria. The function of MDH2 is vital for cellular respiration, ATP generation, and metabolic adaptation under different physiological conditions.

MDH2 antibody has become an important tool for researchers studying mitochondrial metabolism, cancer biology, and metabolic diseases. Elevated MDH2 expression has been linked to tumor progression, since cancer cells often rely on mitochondrial adaptations to sustain rapid growth and survival in nutrient-limited environments. On the other hand, reduced MDH2 activity has been observed in certain neurodegenerative diseases, underscoring its role in maintaining neuronal energy balance. Using MDH2 antibody, researchers can track changes in expression levels and cellular localization to better understand these disease processes.

One of the advantages of MDH2 antibody is its broad application across assays. In western blotting, it provides specific recognition of MDH2 protein bands, allowing comparisons of expression in different cell types or tissues. In immunohistochemistry, MDH2 antibody reveals mitochondrial localization patterns in tissue sections, highlighting differences in metabolic states between normal and diseased tissues. It is also suitable for immunofluorescence, where it enables visualization of mitochondrial morphology and distribution alongside other organelle markers. These applications make it a versatile reagent in both basic research and translational studies.

MDH2 is also of interest as a biomarker in clinical research. Alterations in mitochondrial function have been implicated in metabolic syndrome, diabetes, and cardiovascular diseases. Because MDH2 participates in the malate-aspartate shuttle, it also plays a role in maintaining cytosolic and mitochondrial NADH/NAD+ balance. Disruption of this balance affects numerous metabolic pathways, including gluconeogenesis and amino acid metabolism. Studies employing MDH2 antibody can help clarify how changes in mitochondrial activity contribute to systemic disease.

Beyond metabolism, MDH2 has been implicated in apoptosis and redox signaling. Mitochondrial enzymes often have roles beyond their traditional metabolic functions, and evidence suggests that MDH2 contributes to the regulation of oxidative stress responses. This multifunctionality increases the importance of reliable antibodies for detecting and quantifying MDH2 in experimental systems. Researchers studying stress adaptation, mitochondrial dynamics, and signaling cascades can all benefit from including MDH2 antibody in their studies.

MDH2 antibody is therefore an essential reagent for scientists investigating cellular metabolism and mitochondrial biology. Its specificity allows researchers to dissect pathways that connect energy metabolism to disease progression. By incorporating this antibody into experimental workflows, investigators gain a precise tool for understanding how mitochondrial enzymes like MDH2 support both normal physiology and pathological processes. NSJ Bioreagents provides this antibody to support ongoing research into energy metabolism, cancer, and neurodegenerative disease.

Application Notes

Optimal dilution of the MDH2 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human MDH2 was used as the immunogen for the MDH2 antibody.

Storage

Store the MDH2 antibody at -20oC.

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