Anti-MDH1 Antibody [JE35-03]

HA722196

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, FC
Molecular Wt:	Predicted band size: 36 kDa
Clone number:	JE35-03

Description: Malate dehydrogenase, cytoplasmic also known as malate dehydrogenase 1 is an enzyme that in humans is encoded by the MDH1 gene. Malate dehydrogenase catalyzes the reversible oxidation of malate to oxaloacetate, utilizing the NAD/NADH cofactor system in the citric acid cycle. The protein encoded by this gene is localized to the cytoplasm and may play pivotal roles in the malate-aspartate shuttle that operates in the metabolic coordination between cytosol and mitochondria. Alternatively spliced transcript variants encoding distinct isoforms have been found for this gene.

Immunogen: Synthetic peptide within Human MDH1 aa 285-334 / 334.

Positive control: Jurkat cell lysate, HepG2 cell lysate, U-937 cell lysate, HL-60 cell lysate, NIH/3T3 cell lysate, rat kidney tissue lysate, U-937, NIH/3T3.

Subcellular location: Cytoplasm, cytosol.

Database links: SwissProt: P40925 Human | P14152 Mouse | O88989 Rat

Recommended Dilutions:

WB	1:1,000
IF-Cell	1:100
FC	1:1,000

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

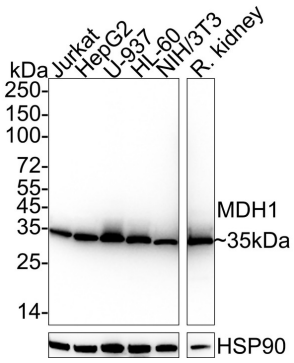

Fig1: Western blot analysis of MDH1 on different lysates with Rabbit anti-MDH1 antibody (HA722196) at 1/1,000 dilution.

Lane 1: Jurkat cell lysate (20 µg/Lane)
Lane 2: HepG2 cell lysate (20 µg/Lane)
Lane 3: U-937 cell lysate (20 µg/Lane)
Lane 4: HL-60 cell lysate (20 µg/Lane)
Lane 5: NIH/3T3 cell lysate (20 µg/Lane)
Lane 6: Rat kidney tissue lysate (40 µg/Lane)

Predicted band size: 36 kDa
Observed band size: 35 kDa

Exposure time: 6 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722196) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

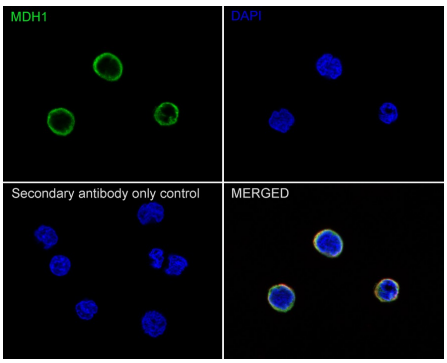

Fig2: Immunocytochemistry analysis of U-937 cells labeling MDH1 with Rabbit anti-MDH1 antibody (HA722196) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-MDH1 antibody (HA722196) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

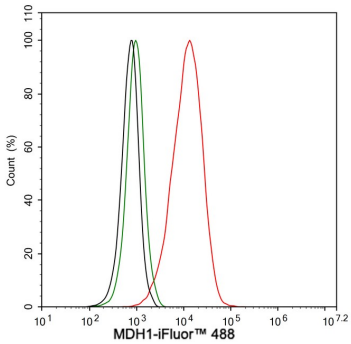

Fig3: Flow cytometric analysis of U-937 cells labeling MDH1.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA722196, 1μg/mL) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

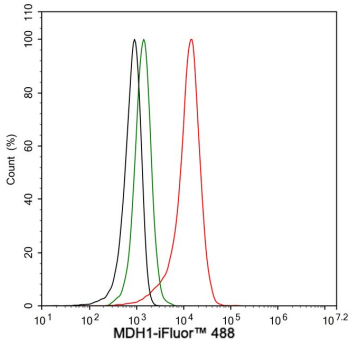

Fig4: Flow cytometric analysis of NIH/3T3 cells labeling MDH1.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA722196, 1μg/mL) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Hu M et al. MDH1 and MDH2 Promote Cell Viability of Primary AT2 Cells by Increasing Glucose Uptake. Comput Math Methods Med. 2022 Sep
2. Wang M et al. Upregulation of MDH1 acetylation by HDAC6 inhibition protects against oxidative stress-derived neuronal apoptosis following intracerebral hemorrhage. Cell Mol Life Sci. 2022 Jun