

Anti-ALDH2 Antibody [7-D8-R]

HA601277



Product Type:	Recombinant Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human, Rat
Applications:	WB, IF-Cell, IHC-P
Molecular Wt:	Predicted band size: 56 kDa
Clone number:	7-D8-R

Description: Aldehyde dehydrogenase 2 family (mitochondrial), also known as ALDH2, is a human gene found on chromosome 12. Two major liver isoforms of this enzyme, cytosolic and mitochondrial, can be distinguished by their electrophoretic mobilities, kinetic properties, and subcellular localizations. The ALDH2 gene encodes a mitochondrial isoform, which has a low Km for acetaldehydes, and is localized in mitochondrial matrix. Most Europeans have two major isozymes, while approximately 50% of Northeast Asians have one normal copy of the ALDH2 gene and one mutant copy that encodes an inactive mitochondrial isoenzyme. A remarkably higher frequency of acute alcohol intoxication among Northeast Asians than among Europeans has been repeatedly shown to be related to the very much reduced activity of the mutant ALDH2-2 isoenzyme.

Immunogen: Synthetic peptide within Human ALDH2 aa 1-50 / 517.

Positive control: 293T cell lysate, HepG2 cell lysate, K-562 cell lysate, A549 cell lysate, THP-1 cell lysate, human liver tissue lysate, rat liver tissue lysate, rat testis tissue lysate, HepG2, human liver tissue, rat liver tissue.

Subcellular location: Mitochondrion matrix.

Database links: SwissProt: P05091 Human | P11884 Rat

Recommended Dilutions:

WB	1:1,000
IF-Cell	1:100
IHC-P	1:2,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

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Orders:0086-571-88062880

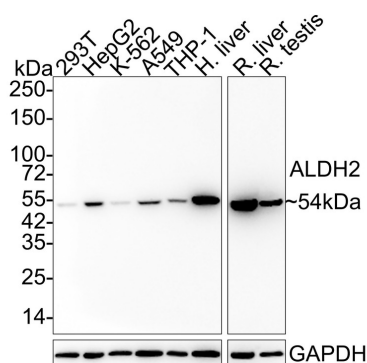
Technical:0086-571-89986345

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Images

Fig1: Western blot analysis of ALDH2 on different lysates with Mouse anti-ALDH2 antibody (HA601277) at 1/1,000 dilution.



Lane 1: 293T cell lysate (20 µg/Lane)
 Lane 2: HepG2 cell lysate (20 µg/Lane)
 Lane 3: K-562 cell lysate (20 µg/Lane)
 Lane 4: A549 cell lysate (20 µg/Lane)
 Lane 5: THP-1 cell lysate (20 µg/Lane)
 Lane 6: Human liver tissue lysate (40 µg/Lane)
 Lane 7: Rat liver tissue lysate (40 µg/Lane)
 Lane 8: Rat testis tissue lysate (40 µg/Lane)

Predicted band size: 56 kDa

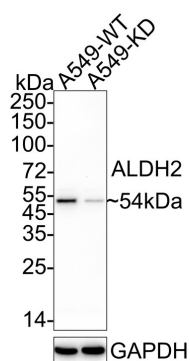
Observed band size: 54 kDa

Exposure time: 1 minute 30 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDN/TBST for 1 hour at room temperature. The primary antibody (HA601277) at 1/1,000 dilution was used in 5% NFDN/TBST at 4°C overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Western blot analysis of ALDH2 on different lysates with Mouse anti-ALDH2 antibody (HA601277) at 1/1,000 dilution.



Lane 1: A549-WT cell lysate
 Lane 2: A549-KD ALDH2 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 56 kDa

Observed band size: 54 kDa

Exposure time: 52 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDN/TBST for 1 hour at room temperature. The primary antibody (HA601277) at 1/1,000 dilution was used in 5% BSA at 4°C overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

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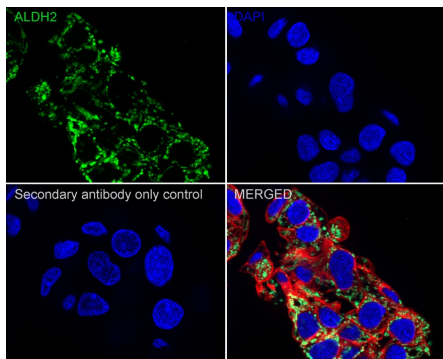
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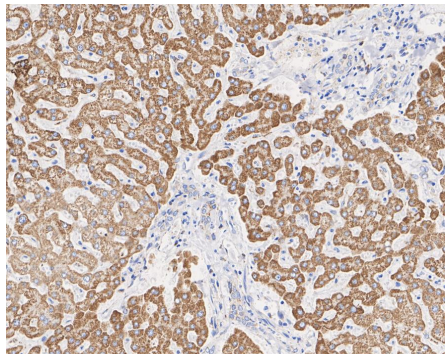
Fig3: Immunocytochemistry analysis of HepG2 cells labeling ALDH2 with Mouse anti-ALDH2 antibody (HA601277) at 1/100 dilution.



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 Mouse anti-ALDH2 antibody (HA601277) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) 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.

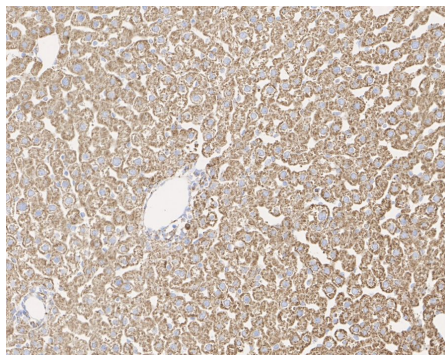
beta Tubulin (ET1602-4, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Rabbit IgG H&L (iFluor™ 594, HA1122) were used as the secondary antibody at 1/1,000 dilution.

Fig4: Immunohistochemical analysis of paraffin-embedded human liver tissue with Mouse anti-ALDH2 antibody (HA601277) at 1/2,000 dilution.



The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA601277) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Fig5: Immunohistochemical analysis of paraffin-embedded rat liver tissue with Mouse anti-ALDH2 antibody (HA601277) at 1/2,000 dilution.



The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA601277) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

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

Background References

1. Hempel J, Kaiser R, J rnvall H (1985). "Mitochondrial aldehyde dehydrogenase from human liver. Primary structure, differences in relation to the cytosolic enzyme, and functional correlations." Eur. J. Biochem. 153 (1): 13-28. 2.Chao YC, Liou SR, Tsai SF, Yin SJ (1994). "Dominance of the mutant ALDH2(2) allele in the expression of human stomach aldehyde dehydrogenase-2 activity." Proc. Natl. Sci. Coun. Repub. China B 17 (3): 98-102.
2. Seitz HK, Meier P (2007). "The role of acetaldehyde in upper digestive tract cancer in alcoholics." Translational research : the journal of laboratory and clinical medicine 149 (6): 293-7.

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