Anti-ALDH1A1 Antibody [SY11-02]

ET1605-24

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat, Cynomolgus monkey, Pig
Applications:	WB, IHC-P, IHC-Fr, IP
Molecular Wt:	Predicted band size: 55 kDa
Clone number:	SY11-02

Description: Aldehyde dehydrogenases (ALDHs) mediate NADP+-dependent oxidation of aldehydes into acids during the detoxification of alcohol-derived acetaldehyde; metabolism of corticosteroids, biogenic amines and neurotransmitters; and lipid peroxidation. ALDH1A1, also designated retinal dehydrogenase 1 (RalDH1 or RALDH1), aldehyde dehydrogenase family 1 member A1, aldehyde dehydrogenase cytosolic, ALDHII, ALDH-E1 or ALDH E1, is a retinal dehydrogenase that participates in the biosynthesis of retinoic acid (RA). There are two major liver isoforms of ALDH1 that can localize to cytosolic or mitochondrial space. The ALDH1A2 (RALDH2, RALDH2-T) gene produces three different transcripts and also catalyzes the synthesis of RA from retinaldehyde. ALDH1A3 (ALDH6, RALDH3, ALDH1A6) is a 37 kb gene that consists of 13 exons and produces a major transcript of approximately 3.5 kb most abundant in salivary gland, stomach and kidney. ALDH3A1 (stomach type, ALDH3, ALDHIII) forms a cytoplasmic homodimer that preferentially oxidizes aromatic aldehyde substrates. ALDH genes upregulate as a part of the oxidative stress response, and appear to be abundant in certain tumors that have an accelerated metabolism toward chemotherapy agents.

Immunogen: Synthetic peptide within human ALDH1A1 aa 300-360.

Positive control: A549 cell lysate, mouse lung tissue lysate, human liver tissue lysate, human kidney tissue lysate, human liver tissue, human kidney tissue, mouse striatum tissue.

Subcellular location: Cytoplasm,Cell projection.

Database links: SwissProt: P00352 Human | P24549 Mouse | P51647 Rat

Recommended Dilutions:

WB	1:1,000-1:2,000
IHC-P	1:100-1:200
IHC-Fr	1:200
IP	Use at an assay dependent concentration.

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

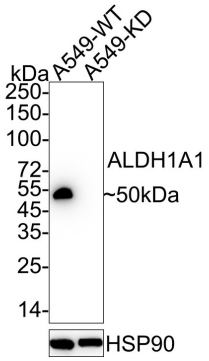

Fig1: Western blot analysis of ALDH1A1 on different lysates with Rabbit anti-ALDH1A1 antibody (ET1605-24) at 1/2,000 dilution.

Lane 1: A549-WT cell lysate
Lane 2: A549-KD ALDH1A1 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 55 kDa
Observed band size: 50 kDa

Exposure time: 5 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 (ET1605-24) at 1/2,000 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.

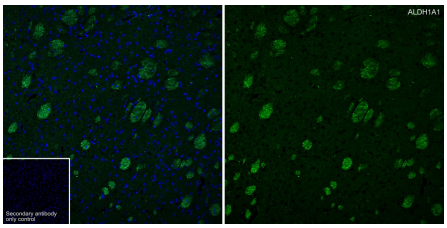

Fig2: Application: IHC-Fr

Species: Mouse

Site: Striatum

Sample: Frozen section

Antibody concentration: 1:200

Antigen retrieval: Recommend. The section was pre-treated using 1% SDS buffer (in PBS, pH 7.4) for 5 minutes at room temperature.

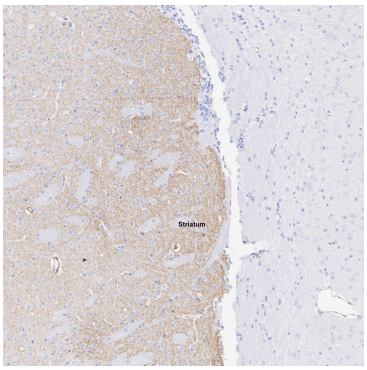

Fig3: Immunohistochemical analysis of paraffin-embedded mouse striatum tissue with Rabbit anti-ALDH1A1 antibody (ET1605-24) at 1/100 dilution.

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 ddH_2O and PBS, and then probed with the primary antibody (ET1605-24) at 1/100 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.

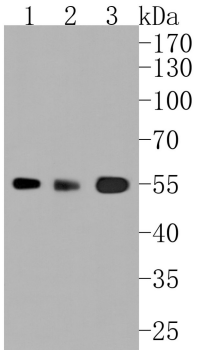

Fig4: Western blot analysis of ALDH1A1 on different lysates with Rabbit anti-ALDH1A1 antibody (ET1605-24) at 1/2,000 dilution.

Lane 1: mouse lung tissue lysate
Lane 2: human liver tissue lysate
Lane 3: human kidney tissue lysate

Lysates/proteins at 15 µg/Lane.

Predicted band size: 55 kDa
Observed band size: 55 kDa

Exposure time: 10 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 (ET1605-24) at 1/2,000 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.

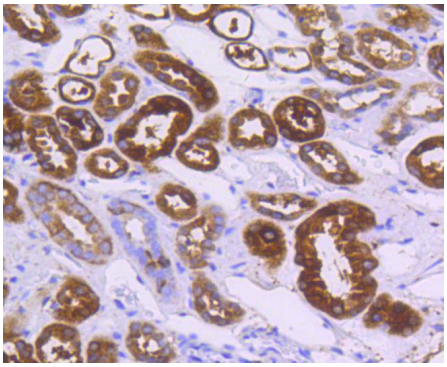

Fig5: Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-ALDH1A1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1605-24, 1/200) for 30 minutes 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.

Background References

1. Lokody IB et al. Pten Regulates Epithelial Cytodifferentiation during Prostate Development. PLoS One 10:e0129470 (2015).
2. Foster JW et al. Low-glucose enhances keratocyte-characteristic phenotype from corneal stromal cells in serum-free conditions. Sci Rep 5:10839 (2015).