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Datasheet for 600-101-HB6S

Aldh1l1 Antibody

Overview

Description:	Anti-Aldh1l1 (GOAT) Antibody - 600-101-HB6S
Item No.:	600-101-HB6S
Size:	25 µg
Applications:	IF, IHC, WB
Reactivity:	Mouse
Host Species:	Goat

Product Details

Background:	Aldh1l1, also known as Aldehyde Dehydrogenase 1 Family Member L1, belongs to the aldehyde dehydrogenase family. This protein catalyzes the conversion of 10-formyltetrahydrofolate, nicotinamide adenine dinucleotide phosphate (NADP+), and water to tetrahydrofolate, NADPH, and carbon dioxide. Loss of function or expression of this gene is associated with decreased apoptosis, increased cell motility, and cancer progression. Aldh1l1 is cytoplasmic. Diseases associated with ALDH1L1 include Methanol Poisoning and Pilocytic Astrocytoma. Anti-Aldh1l1 Antibody is useful for researchers interested in Apoptosis Research, Metabolism Research, and Cancer research.
Synonyms:	Goat Anti-Aldh1l1 Antibody, Cytosolic 10-formyltetrahydrofolate dehydrogenase, 10-FTHFDH, FDH, Aldehyde dehydrogenase family 1 member L1, Fthfd
Host Species:	Goat
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	Aldh1l1
Reactivity:	Mouse
Immunogen Type:	Conjugated Peptide

Immunogen:	Anti-Aldh1l1 antibody was prepared from whole goat serum produced by repeated immunizations with a synthetic peptide corresponding to an internal portion of mouse Aldh1l1 conjugated to Keyhole Limpet Hemocyanin (KLH).
Purity/Specificity:	This affinity purified antibody is directed against mouse Aldh1l1. This product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest cross-reactivity with the antigen based on 100% homology with the immunizing sequence to human and rat.
Relevant Links:	• UniProtKB - Q8R0Y6 • NCBI - NP_081682.1 • GeneID - 107747

Application Details

Tested Applications:	IF, IHC, WB
Application Note:	Anti-Aldh1l1 Antibody has been tested in WB, IHC, and IF. Expect a band at ~98.7kDa in western blot using appropriate lysates. Positive control used: NIH3T3 and Ms Liver for WB, Ms Liver and Kidney for IHC, and NIH3T3 for IF.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000-1:50,000
IF:	15 µg/mL
IHC:	1:200
WB:	1:1000

Formulation

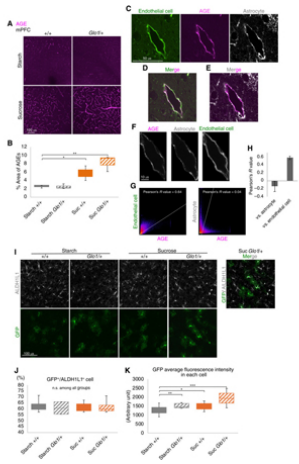
Physical State:	Liquid (sterile filtered)
Concentration:	1.02 mg/ml by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

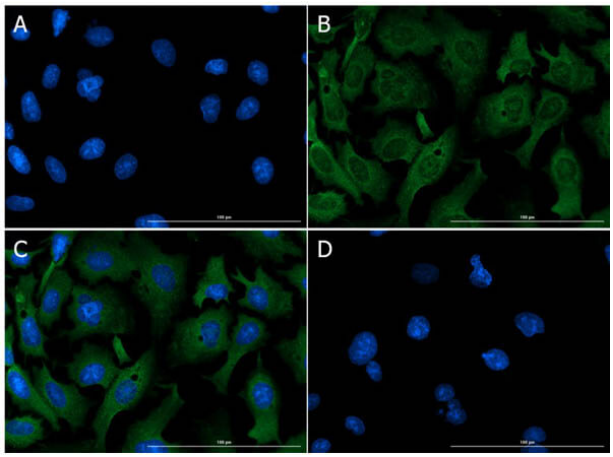
Shipping Condition:	Dry Ice

Storage Condition:	Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is one (1) year from date of receipt.

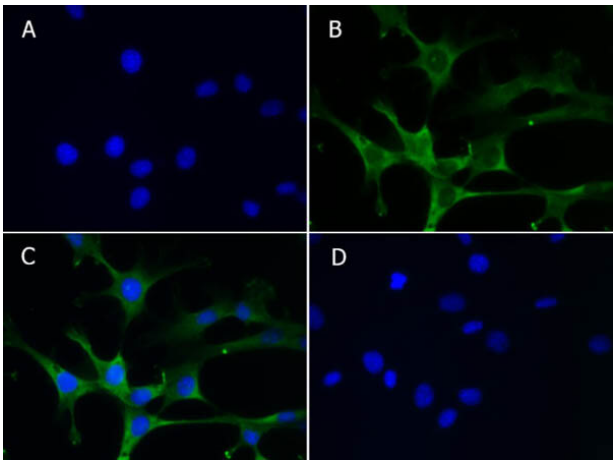
Images



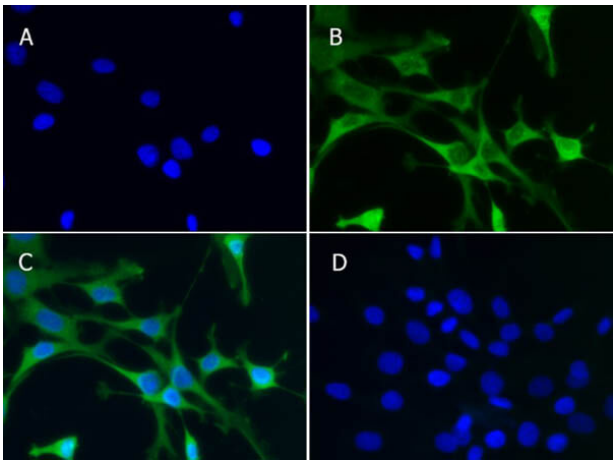
Immunohistochemistry
(A) AGE immunohistochemistry in the mPFC. (B) Measurement of AGE immunoreactive area. The mean intensity of the AGE-immunopositive area in the entire image was measured for each section (n = 3 mice per group). (C to E) Colocalization of the endothelial cell marker tomato lectin with the astrocytic marker ALDH1L1 or AGEs. (F) Enlarged version of images in (C) presenting the region used for colocalization analysis. (G) Two-dimensional intensity histogram of the two indicated channels for identifying the colocalization of AGE with ALDH1L1 (astrocyte) or tomato lectin (endothelial cell). (H) Average R value of colocalization data including (G) three different locations of three mice. (I) Immunohistological images of green fluorescent protein (GFP)–positive astrocytes and ALDH1L1 in the mPFC region and merged GFP/ALDH1L1 image. (J) Percentage of GFP-positive cells per total ALDH1L1-positive cells in each image in (I). (K) Mean fluorescent GFP intensities of 10 randomly selected cells per image in (I) (from four independent mice). (B, J, and K) The Starch +/+ group was used as a control for post hoc Dunnett's test. All data are presented as means ± SEM. ***P < 0.001, **P < 0.01, and *P < 0.05. Fig 3.
PMID: 34757783



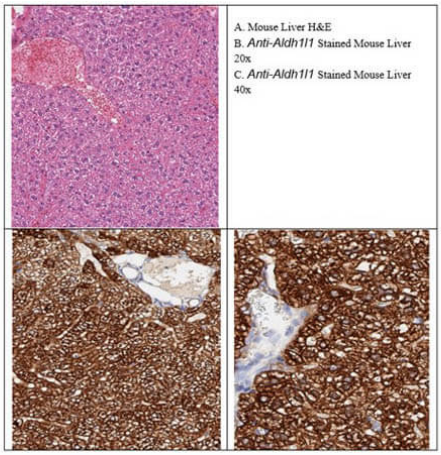
Immunofluorescence Microscopy
Immunofluorescence Microscopy of Goat anti-Aldh1l1 antibody. Cells: HepG2 cells. Fixation: 100% MeOH. Permeabilization: 0.3%Triton X-100. Primary antibody: Anti-Aldh1l1 antibody at 15µg/mL overnight at 2-8°C. Secondary antibody: Donkey Anti-Goat IgG DyLight™ 488 Conjugated Preadsorbed (p/n 605-741-125) at 5µg/mL for 1 h at RT. Localization: cytoplasm. Images were deconvoluted. Staining: (A) DAPI. (B) Anti-Adlh1l1 antibody+secondary. (C) Merged A+B. (D) Secondary Only.



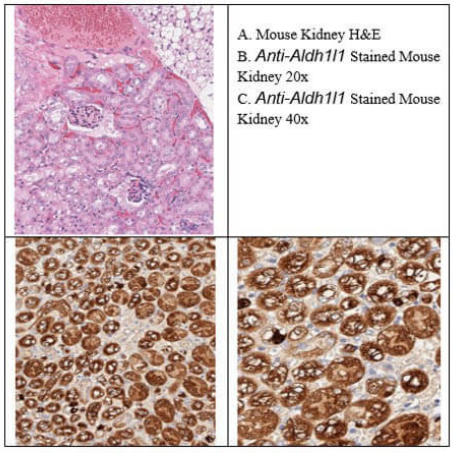
Immunofluorescence Microscopy
Immunofluorescence Microscopy of Goat anti-Aldh1l1 antibody. Tissue: NIH3T3. Fixation: 4% PFA. Permeabilization: 0.3%Triton X-100. Primary antibody: Aldh1l1 antibody at 15µg/mL overnight at 2-8°C. Secondary antibody: Donkey Anti-Goat IgG DyLight™ 488 Conjugated Preadsorbed (p/n 605-741-125) at 5µg/mL for 1 h at RT. Localization: cytoplasm. Staining: (A) DAPI. (B) Anti-Adlh1l1 antibody+secondary. (C) Merged A+B. (D) Secondary Only.



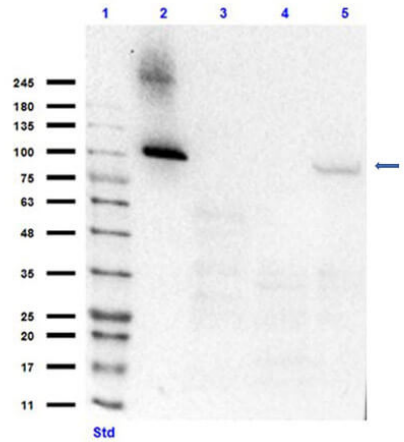
Immunofluorescence Microscopy
Immunofluorescence Microscopy of Goat anti-Aldh1l1 antibody. Tissue: NIH3T3. Fixation: 100% MeOH. Permeabilization: 0.3%Triton X-100. Primary antibody: Aldh1l1 antibody at 15µg/mL overnight at 2-8°C. Secondary antibody: Donkey Anti-Goat IgG DyLight™ 488 Conjugated Preadsorbed (p/n 605-741-125) at 5µg/mL for 1 h at RT. Localization: cytoplasm. Staining: (A) DAPI. (B) Anti-Adlh1l1 antibody+secondary. (C) Merged A+B. (D) Secondary Only.



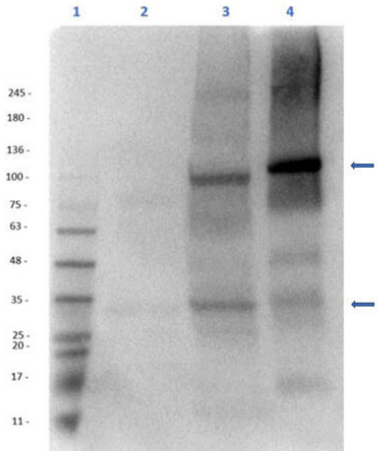
Immunohistochemistry
Immunohistochemistry of Goat Anti-Aldh1l1 antibody. Tissue: mouse Liver tissue. Antigen retrieval: heat induced (HIER) using Citrate Buffer for 20min. Primary antibody: Aldh1l1 antibody at 1:200 for 30min at RT. Secondary Antibody: Donkey Anti-Goat HRP-IgG 4µl/mL for 20min at RT. Staining: DAB. Counter Stain: Hematoxylin. Localization: Aldh1l1 showed selective cytoplasmic staining in mouse liver of hepatocytes. The specificity of the staining is weak in bile duct cells and strong membranous and cytoplasmic in hepatocytes.



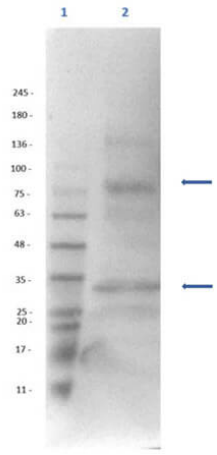
Immunohistochemistry
Immunohistochemistry of Goat Anti-Aldh1l1 antibody. Tissue: mouse Kidney tissue. Antigen retrieval: heat induced (HIER) using Citrate Buffer for 20min. Primary antibody: Aldh1l1 antibody at 1:200 for 30min at RT. Secondary Antibody: Donkey Anti-Goat HRP-IgG 4µl/mL for 20min at RT. Staining: DAB. Counter Stain: Hematoxylin. Localization: Aldh1l1 showed selective staining of renal tubular epithelial cells in mouse kidney. The specificity of the staining is cytoplasmic and membranous in tubules not in glomeruli.



Western Blot
Western Blot of Goat Anti-Aldh1l1 Antibody. Lane 1: Opal Pre-stained MW ladder (p/n MB-210-0500). Lane 2: ALDH1L1 recombinant human protein. Lane 3: HEK293T Lysate (p/n W09-001-GX5). Lane 4: NIH3T3 Lysate (p/n W10 -000-358). Lane 5: Mouse liver (normal tissue) Lysate (p/n W10-000-T020). Primary antibody: Aldh1l1 antibody at 1:1000 for overnight at 4°C. Secondary antibody: F(ab)'2 Donkey anti-Goat HRP secondary antibody at 1:40,000 for 1 hr at RT. Block: BlockOut (p/n MB-073) 30 min at RT. Predicted/Observed size: ~98.8kDa.



Western Blot
Western Blot of Goat Anti-Aldh1l1 Antibody. Lane 1: Opal Pre-stained MW ladder (p/n MB-210-0500). Lane 2: NIH3T3 Lysate (p/n W10-000-358). Lane 3: Mouse liver Lysate (p/n W10-000-T020). Lane 4: ALDH1L1 HEK293T overexpressed Lysate. Primary antibody: Aldh1l1 antibody at 1:1000 for overnight at 4°C. Secondary antibody: Donkey anti-Goat HRP secondary antibody (p/n 605-703-125) at 1:40,000 for 1 hr at RT. Block: BlockOut (p/n MB-073) 30 min at RT. Predicted/Observed size: ~106kDa overexpressed, ~98.8kDa/34kDa endogenous.



Western Blot
Western Blot of Goat Anti-Aldh1l1 Antibody. Lane 1: Opal Pre-stained MW ladder (p/n MB-210-0500). Lane 2: NIH3T3 Lysate (p/n W10-000-358). Primary antibody: Aldh1l1 antibody at 1:1000 for overnight at 4°C. Secondary antibody: Donkey anti-Goat HRP secondary antibody (p/n 605-703-125) at 1:40,000 for 1 hr at RT. Block: BlockOut (p/n MB-073) 30 min at RT. Predicted/Observed size: ~98.8kDa/34kDa endogenous.

References

- Hirai, S et al. High-sucrose diets contribute to brain angiopathy with impaired glucose uptake and psychosis-related higher brain dysfunctions in mice. *Science Advances* (2021)

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