

**Datasheet for 600-101-HB6****Aldh1l1 Antibody****Overview**

<b>Description:</b>	Anti-Aldh1l1 (GOAT) Antibody - 600-101-HB6
<b>Item No.:</b>	600-101-HB6
<b>Size:</b>	100 µg
<b>Applications:</b>	IF, IHC, WB
<b>Reactivity:</b>	Mouse
<b>Host Species:</b>	Goat

**Product Details**

<b>Background:</b>	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.
<b>Synonyms:</b>	Goat Anti-Aldh1l1 Antibody, Cytosolic 10-formyltetrahydrofolate dehydrogenase, 10-FTHFDH, FDH, Aldehyde dehydrogenase family 1 member L1, Fthfd
<b>Host Species:</b>	Goat
<b>Clonality:</b>	Polyclonal
<b>Format:</b>	IgG

**Target Details**

<b>Gene Name:</b>	Aldh1l1
<b>Reactivity:</b>	Mouse
<b>Immunogen Type:</b>	Conjugated Peptide

<b>Immunogen:</b>	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).
<b>Purity/Specificity:</b>	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.
<b>Relevant Links:</b>	<ul style="list-style-type: none"><li>• <a href="#">UniProtKB - Q8R0Y6</a></li><li>• <a href="#">NCBI - NP_081682.1</a></li><li>• <a href="#">GeneID - 107747</a></li></ul>

## Application Details

<b>Tested Applications:</b>	IF, IHC, WB
<b>Application Note:</b>	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.
<b>Assay Dilutions:</b>	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
<b>ELISA:</b>	1:10,000-1:50,000
<b>IF:</b>	15 µg/mL
<b>IHC:</b>	1:200
<b>WB:</b>	1:1000

## Formulation

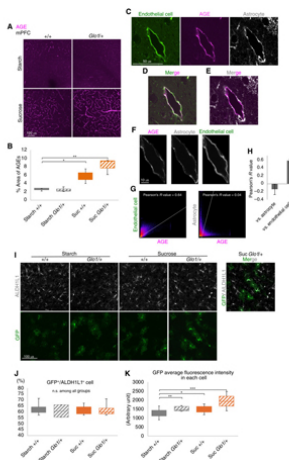
<b>Physical State:</b>	Liquid (sterile filtered)
<b>Concentration:</b>	1.03 mg/ml by UV absorbance at 280 nm
<b>Buffer:</b>	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
<b>Preservative:</b>	0.01% (w/v) Sodium Azide
<b>Stabilizer:</b>	None

## Shipping & Handling

<b>Shipping Condition:</b>	Dry Ice
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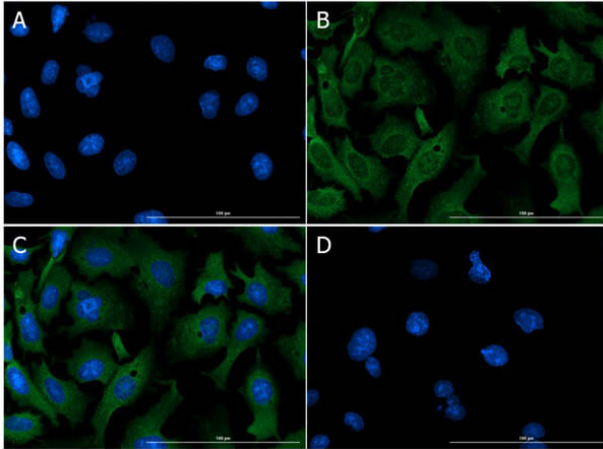
<b>Storage Condition:</b>	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
<b>Expiration:</b>	Expiration date is one (1) year from date of receipt.

## Images



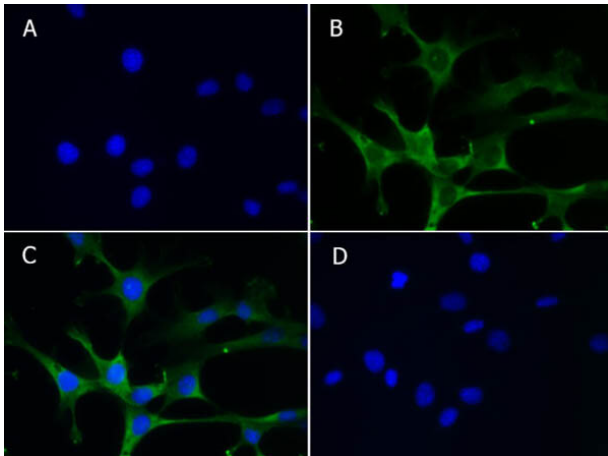
### Immunohistochemistry

(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



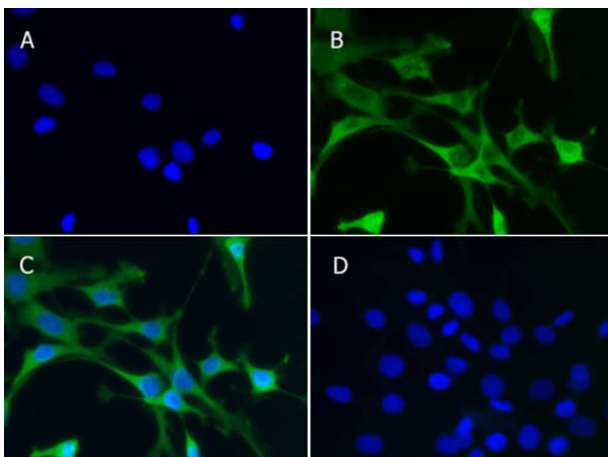
#### Immunofluorescence Microscopy

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 15 $\mu$ g/mL overnight at 2-8 $^{\circ}$ C. Secondary antibody: Donkey Anti-Goat IgG DyLight™ 488 Conjugated Preadsorbed (p/n 605-741-125) at 5 $\mu$ g/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.



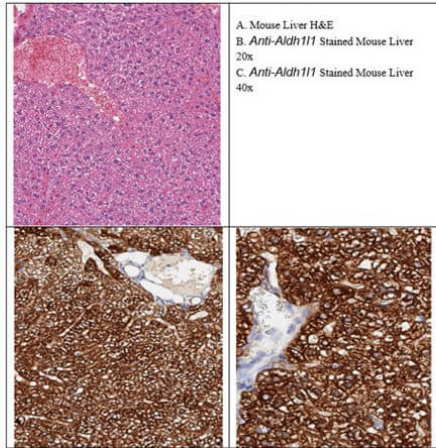
#### Immunofluorescence Microscopy

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



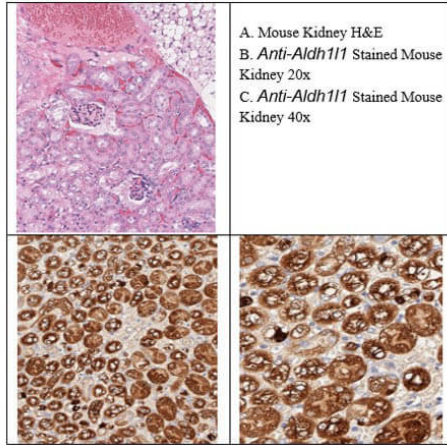
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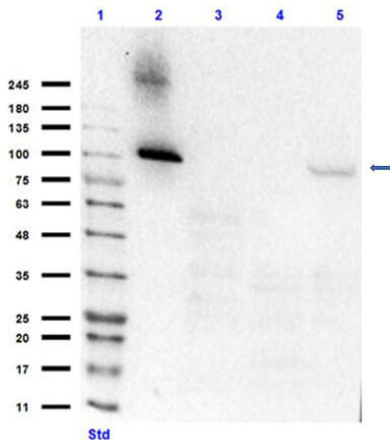
### Immunohistochemistry

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.



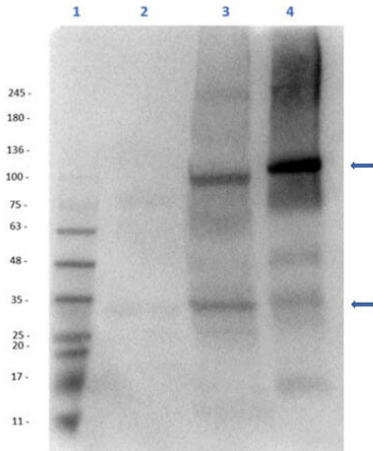
### Immunohistochemistry

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.

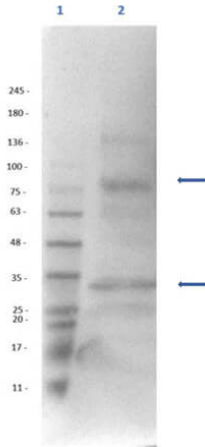


### Western Blot

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**

- Williamson MR et al. Reactive astrocytes facilitate vascular repair and remodeling after stroke. *Cell Rep.* (2021)
- 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)

**Disclaimer**

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.