

Anti-Retinal dehydrogenase 1 ALDH1A1 Antibody Picoband®

Catalog Number: PA1671

About ALDH1A1

ALDH1A1 (Aldehyde dehydrogenase 1 family, member A1), also called ALDH1, RALDH1 or ALDH, LIVER CYTOSOLIC, is an enzyme that in humans is encoded by the ALDH1A1 gene. And this protein belongs to the aldehyde dehydrogenases family of proteins. The ALDH1A1 gene is mapped on 9q21.13. ALDH1A1 also belongs to the group of corneal crystallins that help maintain the transparency of the cornea. ALDH1A1 is associated with a low Km for NAD, a high Km for acetaldehyde, and is strongly inactivated by disulfiram. The ALDH1 gene is about 53 kb long and is divided into 13 exons. Retinaldehyde is generated by ALDH1 from retinol, and its concentration is determined in large part by its subsequent catabolism by RALDH1 to retinoic acid.

Overview

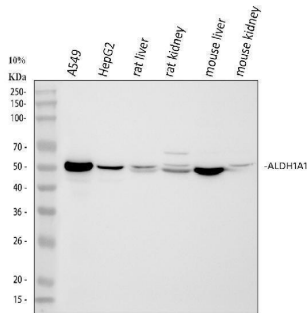
Product Name	Anti-Retinal dehydrogenase 1 ALDH1A1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Retinal dehydrogenase 1 ALDH1A1 Antibody catalog # PA1671. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na ₂ HPO ₄ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P00352

Technical Details

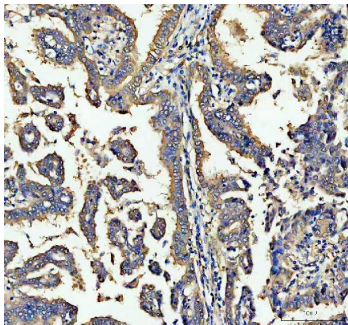
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human ALDH1A1, different from the related rat and mouse sequences by one amino acid.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG

Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5 ug/ml, Human, Mouse, Rat , Immunohistochemistry (Paraffin-embedded Section), 2-5 ug/ml, Human Immunocytochemistry/Immunofluorescence, 5 ug/ml, Human Flow Cytometry(Fixed), 1-3 ug/1x10 ⁶ cells, Human

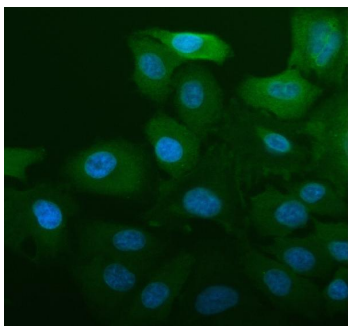
Anti-Retinal dehydrogenase 1 ALDH1A1 Antibody Picoband® (PA1671) Images



Western blot analysis of ALDH1A1 using anti-ALDH1A1 antibody (PA1671). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human A549 whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: rat liver tissue lysates, Lane 4: rat kidney tissue lysates, Lane 5: mouse liver tissue lysates, Lane 6: mouse kidney tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ALDH1A1 antigen affinity purified polyclonal antibody (Catalog # PA1671) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for ALDH1A1 at approximately 55 kDa. The expected band size for ALDH1A1 is at 55 kDa.

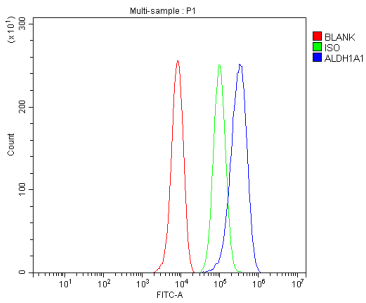


IHC analysis of ALDH1A1 using anti-ALDH1A1 antibody (PA1671). ALDH1A1 was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-ALDH1A1 Antibody (PA1671) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IF analysis of ALDH1A1 using anti-ALDH1A1 antibody (PA1671). ALDH1A1 was detected in an immunocytochemical section of A549 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/mL rabbit anti-ALDH1A1 Antibody (PA1671) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

Flow Cytometry analysis of HepG2 cells using anti-ALDH1A1 antibody (PA1671). Overlay histogram showing HepG2 cells stained with PA1671 (Blue line). To facilitate intracellular



staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-ALDH1A1 Antibody (PA1671, 1 ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x10⁶) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

2 Publications Citing This Product

1. PubMed ID: 31935835, Li Y,Chen F,Chen J,Chan S,He Y,Liu W,Zhang G.Disulfiram/Copper Induces Antitumor Activity against Both Nasopharyngeal Cancer Cells and Cancer-Associated Fibroblasts through ROS/MAPK and Ferroptosis Pathways.Cancers (Basel).2020 Jan 6;12(1):138.doi:10.3390
2. PubMed ID: 27840965, Breast cancer stem cells expressing different stem cell markers exhibit distinct biological characteristics

Visit bosterbio.com/anti-aldh1a1-antibody-pa1671-boster.html to see all 2 publications.

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