BOSTER
antibody and ELISA experts

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3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

Anti-ALDH2 Antibody Picoband®(monoclonal, 6H2)

Catalog Number: M00546-2

About ALDH2

ALDH2 (Aldehyde Dehydrogenase 2 Family) is a human gene. The enzyme encoded by this gene belongs to the aldehyde dehydrogenase family of enzymes that catalyze the chemical transformation from acetaldehyde to acetic acid. Aldehyde dehydrogenase is the second enzyme of the major oxidative pathway of alcohol metabolism. Hsu et al. (1985) assigned the ALDH2 locus to chromosome 12 by means of a cDNA probe and Southern blot analysis of somatic cell hybrids. Using an unbiased proteomic search, Chen et al. (2008) identified mitochondrial ALDH2 as an enzyme whose activation correlated with reduced ischemic heart damage in rodent models. A high-throughput screen identified a small molecule activator of ALDH2, which they called Alda-1, that, when administered to rats before an ischemic event, reduced infarct size by 60%, most likely through its inhibitory effect on the formation of cytotoxic aldehydes.

Overview

Product Name	Anti-ALDH2 Antibody Picoband®(monoclonal, 6H2)
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-ALDH2 Antibody Picoband® (monoclonal, 6H2) catalog # M00546-2. Tested in Flow Cytometry, IF, 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, ICC, WB
Clonality	Monoclonal 6H2
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4, 0.05 mg NaN3.
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	Mouse
Uniprot ID	P05091

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human ALDH2, different from the related mouse sequence by two amino acids, and from the related rat sequence by one amino acid.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti- Mouse IgG Super Vision Assay Kit (SV0001-1) for ICC.
Cross Reactivity	No cross-reactivity with other proteins.

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Isotype	Mouse IgG1
Form	Lyophilized
Concentration	0
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5 ug/ml, Human, Mouse, Rat Immunocytochemistry/Immunofluorescence, 2 ug/ml, Human Flow Cytometry (Fixed), 1-3 ug/1x10^6 cells, Human

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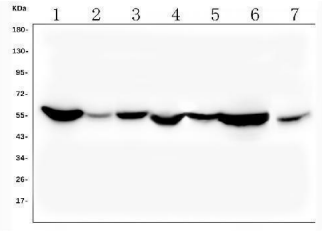
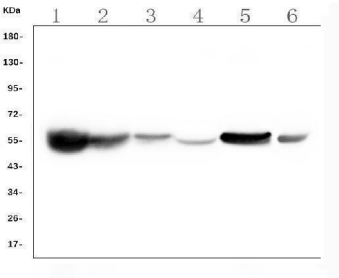
Anti-ALDH2 Antibody Picoband®(monoclonal, 6H2) (M00546-2) Images



Western blot analysis of ALDH2 using anti-ALDH2 antibody (M00546-2). 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 HepG2 whole cell lysates, Lane 2: human placenta tissue lysates, Lane 3: human HEK293 whole cell lysates, Lane 4: human HL-60 whole cell lysates, Lane 5: human SHG-44 whole cell lysates, Lane 6: human THP-1 whole cell lysates, Lane 7: human K562 whole cell 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 mouse anti-ALDH2 antigen affinity purified monoclonal antibody (Catalog # M00546-2) 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-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for ALDH2 at approximately 56 kDa. The expected band size for ALDH2 is at 56 kDa.



Western blot analysis of ALDH2 using anti-ALDH2 antibody (M00546-2). 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: rat liver tissue lysates, Lane 2: rat kidney tissue lysates, Lane 3: rat heart tissue lysates, Lane 4: rat PC-12 whole cell lysates, Lane 5: mouse liver tissue lysates, Lane 6: mouse Ana-1 whole cell 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 mouse anti-ALDH2 antigen affinity purified monoclonal antibody (Catalog # M00546-2) 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-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for ALDH2 at approximately 56 kDa. The expected band size for ALDH2 is at 56 kDa.

IF analysis of ALDH2 using anti-ALDH2 antibody (M00546-2). ALDH2 was detected in immunocytochemical section of U20S 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 2 ug/mL mouse anti-ALDH2 Antibody

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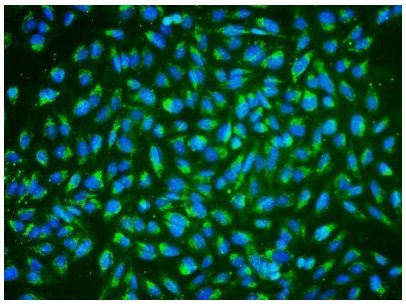
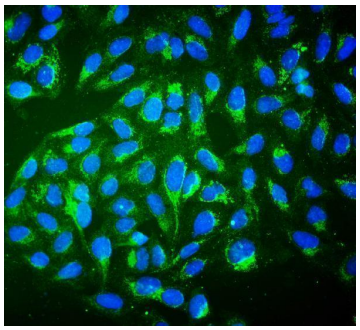
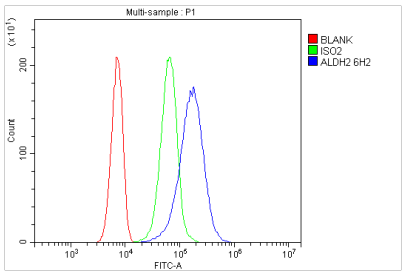


(M00546-2) overnight at 4°C. DyLight488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



IF analysis of ALDH2 using anti-ALDH2 antibody (M00546-2). ALDH2 was detected in immunocytochemical section of U20S 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 2 ug/mL mouse anti-ALDH2 Antibody (M00546-2) overnight at 4°C. DyLight488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 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 SiHa cells using anti-ALDH2 antibody (M00546-2).Overlay histogram showing SiHa cells stained with M00546-2 (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 mouse anti-ALDH2 Antibody (M00546-2,1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Anti-ALDH2 Antibody (monoclonal, 6H2)

For Research Use Only. Not for use in diagnostic procedures.