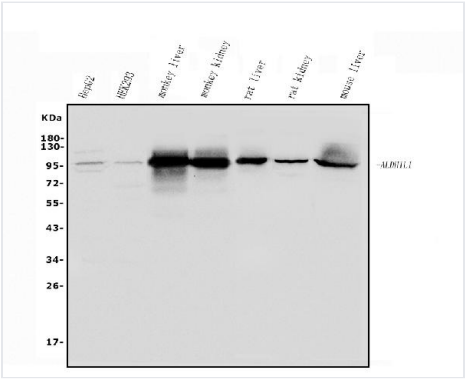
ALDH1L1 Antibody – Rabbit Polyclonal

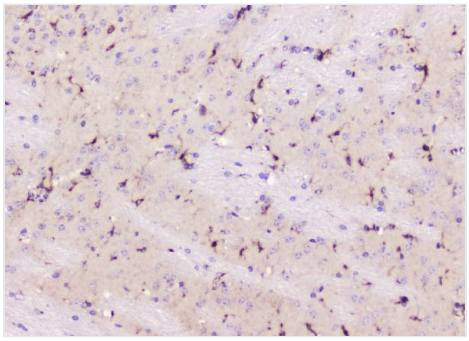
PRODUCT OVERVIEW

Product Name	ALDH1L1, Polyclonal Antibody
Full Product Name	Anti-ALDH1L1 Antibody
Product Gene Name	anti-ALDH1L1 antibody
Product Synonym Names	ALDH1L1; FTHFD; Cytosolic 10-formyltetrahydrofolate dehydrogenase; 10-FTHFDH; FDH; Aldehyde dehydrogenase family 1 member L1; aldehyde dehydrogenase 1 family member L1
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat, Monkey
Form/Format	Lyophilized. Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
Purity/Purification	Immunogen affinity purified.
Specificity	Rabbit IgG polyclonal antibody for ALDH1L1 detection.
Preparation and Storage	Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing.
Molecular Weight	902
OMIM	600249
3D Structure	ModBase 3D Structure for O75891
Immunogen	E Coli-derived human ALDH1L1 recombinant protein (Position: N282-L424).
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Recommended Detection Systems	Recommended Detection Systems||Lab recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (MBS176460) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (MBS176453) for IHC(P) and ICC.
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Applications Tested/Suitable for anti-ALDH1L1 antibody	Western Blot (WB), Immunohistochemistry-Paraffin (IHC-P), Immunocytochemistry (ICC), Immunofluorescence (IF), Flow Cytometry (FC/FACS/FCM), Direct ELISA (EIA)
Application Notes for anti-ALDH1L1 antibody	WB: 0.1-0.25ug/ml|Human, Mouse, Rat, Monkey| IHC-P: 2-5ug/ml|Human, Mouse, Rat| ICC/IF: 5ug/ml|Human| FC/FACS/FCM: 1-3ug/1x106 cells|Human| Direct ELISA: 0.1-0.5ug/ml|Human|
Related Product Information for anti-ALDH1L1 antibody	10-formyltetrahydrofolate dehydrogenase is an enzyme that in humans is encoded by the ALDH1L1 gene. The protein encoded by this gene catalyzes the conversion of 10-formyltetrahydrofolate, NADP, and water to tetrahydrofolate, NADPH, and carbon dioxide. The encoded protein belongs to the aldehyde dehydrogenase family and is responsible for formate oxidation in vivo. Deficiencies in this gene can result in an accumulation of formate and subsequent methanol poisoning.

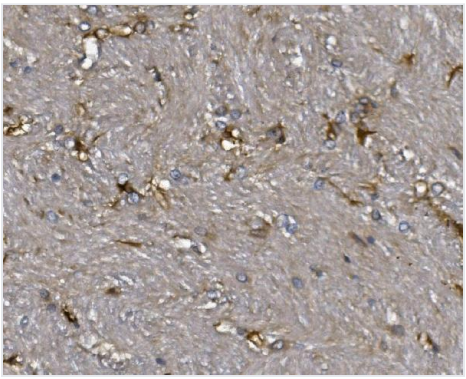
Product References and Citations for anti-ALDH1L1 antibody	1. Champion, K. M., Cook, R. J., Tollaksen, S. L., Giometti, C. S. Identification of a heritable deficiency of the folate-dependent enzyme 10-formyltetrahydrofolate dehydrogenase in mice. Proc. Nat. Acad. Sci. 91: 11338-11342, 1994. 2. Gross, M. B. Personal Communication. Baltimore, Md. 11/2/2010. 3. Hong, M., Lee, Y., Kim, J. W., Lim, J. S., Chang, S. Y., Lee, K. S., Paik, S. G., Choe, I. S. Isolation and characterization of cDNA clone for human liver 10-formyltetrahydrofolate dehydrogenase. Biochem. Molec. Biol. Int. 47: 407-415, 1999.
Other Notes	Small volumes of anti-ALDH1L1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for ALDH1L1 purchase	MBS1753667 is an antibody targeting ALDH1L1. Reactive in Human, Mouse, Rat, Monkey. Host: Rabbit.



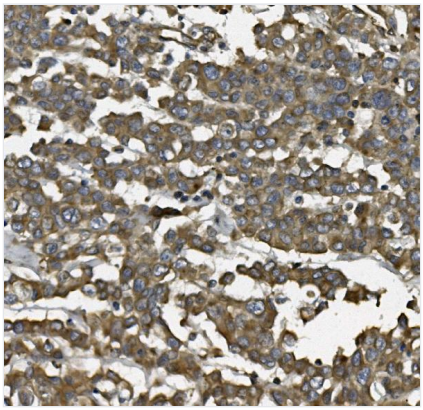
Western Blot (WB) of anti-ALDH1L1 antibody
Figure 1. Western blot analysis of ALDH1L1 using anti-ALDH1L1 antibody (MBS1753667).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.Lane 1: human HEPG2 whole cell lysatesLane 2: human HEK293 whole cell lysatesLane 3: monkey liver tissue lysatesLane 4: monkey kidney tissue lysatesLane 5: rat liver tissue lysatesLane 6: rat kidney tissue lysatesLane 7: mouse liver tissue lysates.After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-ALDH1L1 antigen affinity purified polyclonal antibody (Catalog # MBS1753667) at 0. 25 ?g/mL overnight at 4 degree 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 # MBS176460) with Tanon 5200 system. A specific band was detected for ALDH1L1 at approximately 97KD. The expected band size for ALDH1L1 is at 97KD.



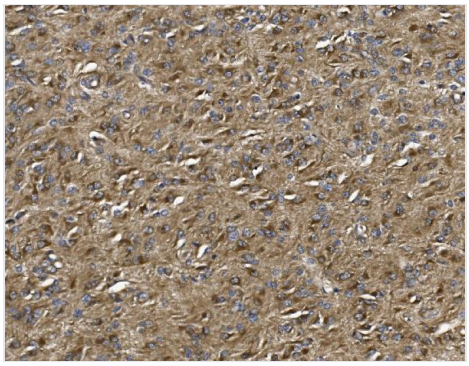
Immunohistochemistry (IHC) of anti-ALDH1L1 antibody
Figure 2. IHC analysis of ALDH1L1 using anti-ALDH1L1 antibody (MBS1753667).ALDH1L1 was detected in paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2? g/ml rabbit anti-ALDH1L1 Antibody (MBS1753667) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # MBS176451) with DAB as the chromogen.



Immunohistochemistry (IHC) of anti-ALDH1L1 antibody
Figure 3. IHC analysis of ALDH1L1 using anti-ALDH1L1 antibody (MBS1753667).ALDH1L1 was detected in paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2? g/ml rabbit anti-ALDH1L1 Antibody (MBS1753667) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # MBS176451) with DAB as the chromogen.

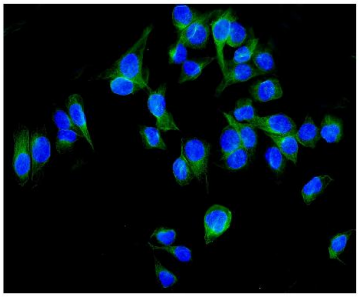


Immunohistochemistry (IHC) of anti-ALDH1L1 antibody
Figure 4. IHC analysis of ALDH1L1 using anti-ALDH1L1 antibody (MBS1753667).ALDH1L1 was detected in paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2?g/ml rabbit anti-ALDH1L1 Antibody (MBS1753667) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # MBS176451) with DAB as the chromogen.



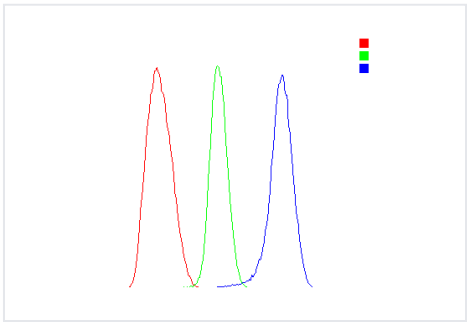
Immunohistochemistry (IHC) of anti-ALDH1L1 antibody

Figure 5. IHC analysis of ALDH1L1 using anti-ALDH1L1 antibody (MBS1753667).ALDH1L1 was detected in paraffin-embedded section of human glioma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2? g/ml rabbit anti-ALDH1L1 Antibody (MBS1753667) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # MBS176451) with DAB as the chromogen.



Immunofluorescence (IF) of anti-ALDH1L1 antibody

Figure 6. IF analysis of ALDH1L1 using anti- ALDH1L1 antibody (MBS1753667).ALDH1L1 was detected in immunocytochemical section of U20S cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (MBS176582) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5?g/mL rabbit anti-ALDH1L1 Antibody (MBS1753667) overnight at 4 degree C. DyLight®488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry (FC/FACS) of anti-ALDH1L1 antibody

Figure 7. Flow Cytometry analysis of HEPG2 cells using anti-ALDH1L1 antibody (MBS1753667).Overlay histogram showing HEPG2 cells stained with MBS1753667 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-ALDH1L1 Antibody (MBS1753667 1?g/1x106 cells) for 30 min at 20 degree C. DyLight®488 conjugated goat anti-rabbit IgG (5-10?g/1x106 cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1?g/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ALDH1L1. It may not necessarily be applicable to this product.

NCBI GI #	59802911
NCBI GeneID	10840
NCBI Accession #	O75891.2
UniProt Primary Accession #	O75891
UniProt Secondary Accession #	Q68CS1; B4DG36; E9PBX3
UniProt Related Accession #	O75891
NCBI Official Full Name	Cytosolic 10-formyltetrahydrofolate dehydrogenase
NCBI Official Synonym Full Names	aldehyde dehydrogenase 1 family, member L1
NCBI Official Symbol	ALDH1L1
NCBI Official Synonym Symbols	FDH; FTHFD; 10-fTHF; 10-FTHFDH

UniProt Protein Name	Cytosolic 10-formyltetrahydrofolate dehydrogenase
UniProt Synonym Protein Names	Aldehyde dehydrogenase family 1 member L1
Protein Family	Cytosolic 10-formyltetrahydrofolate dehydrogenase
UniProt Gene Name	ALDH1L1
UniProt Synonym Gene Names	FTHFD; 10-FTHFDH; FDH
UniProt Entry Name	AL1L1_HUMAN
NCBI Protein Information	cytosolic 10-formyltetrahydrofolate dehydrogenase; MER57B-ALDH1L1
NCBI Summary for ALDH1L1	The protein encoded by this gene catalyzes the conversion of 10-formyltetrahydrofolate, nicotinamide adenine dinucleotide phosphate (NADP+), and water to tetrahydrofolate, NADPH, and carbon dioxide. The encoded protein belongs to the aldehyde dehydrogenase family. Loss of function or expression of this gene is associated with decreased apoptosis, increased cell motility, and cancer progression. There is an antisense transcript that overlaps on the opposite strand with this gene locus. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jun 2012]
UniProt Comments for ALDH1L1	ALDH1L1: 2 isoforms of the human protein are produced by alternative splicing Protein type: Cofactor and Vitamin Metabolism - one carbon pool by folate; Oxidoreductase; EC 1.5.1.6 Chromosomal Location of Human Ortholog: 3q21.3 Cellular Component: mitochondrion Molecular Function: methyltransferase activity; aldehyde dehydrogenase (NAD) activity; formyltetrahydrofolate dehydrogenase activity; hydroxymethyl-, formyl- and related transferase activity; catalytic activity Biological Process: methylation; biosynthetic process; one-carbon compound metabolic process; 10-formyltetrahydrofolate catabolic process
Research Articles on ALDH1L1	**1.** ALDH1 is indicative of stemness and is a biomarker marker in colon cancer.
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