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Tel: 858.875.1900 Fax: 858.875.1999

Anti-IDH1 Picoband Antibody

Catalog # ABO12287

Specification

Anti-IDH1 Picoband Antibody - Product Information

Application	**WB, IHC**
Primary Accession	O75874
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Isocitrate dehydrogenase [NADP] cytoplasmic(IDH1) detection. Tested with WB, IHC-P, IHC-F in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-IDH1 Picoband Antibody - Additional Information

Gene ID 3417

Other Names
Isocitrate dehydrogenase [NADP] cytoplasmic, IDH, 1.1.1.42, Cytosolic NADP-isocitrate dehydrogenase, IDP, NADP(+)-specific ICDH, Oxalosuccinate decarboxylase, IDH1, PICD

Calculated MW
46659 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, By Heat
Immunohistochemistry(Frozen Section), 0.5-1 µg/ml
Western blot, 0.1-0.5 µg/ml

Subcellular Localization
Cytoplasm . Peroxisome .

Protein Name
Isocitrate dehydrogenase [NADP] cytoplasmic

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human IDH1 (381-413aa KGLPNVQRSDYLNTFEFMDKLGENLKIKLAQAK), different from the related mouse and rat sequences by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage **At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Sequence Similarities
Belongs to the isocitrate and isopropylmalate dehydrogenases family.

Anti-IDH1 Picoband Antibody - Protein Information

Name IDH1

Synonyms PICD

Function
Catalyzes the NADP(+)-dependent oxidative decarboxylation of isocitrate (D-threo-isocitrate) to 2-ketoglutarate (2-oxoglutarate), which is required by other enzymes such as the phytanoyl-CoA dioxygenase (PubMed:10521434, PubMed:19935646). Plays a critical role in the generation of NADPH, an important cofactor in many biosynthesis pathways (PubMed:10521434). May act as a corneal epithelial crystallin and may be involved in maintaining corneal epithelial transparency (By similarity).

Cellular Location
Cytoplasm, cytosol. Peroxisome

Anti-IDH1 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-IDH1 Picoband Antibody - Images

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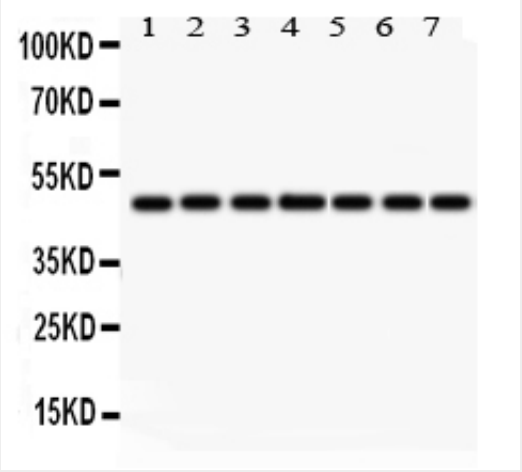


Figure 1. Western blot analysis of IDH1 using anti-IDH1 antibody (ABO12287). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: Rat Lung Tissue Lysate,Lane 2: Rat Kidney Tissue Lysate,Lane 3: Rat Brain Tissue Lysate,Lane 4: HELA Whole Cell Lysate,Lane 5: SMMC Whole Cell Lysate,Lane 6: A549 Whole Cell Lysate,Lane 7: NIH3T3 Whole Cell Lysate. 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-IDH1 antigen affinity purified polyclonal antibody (Catalog # ABO12287) at 0.5 Î¼g/mL overnight at 4Â°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 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for IDH1 at approximately 47KD. The expected band size for IDH1 is at 47KD.

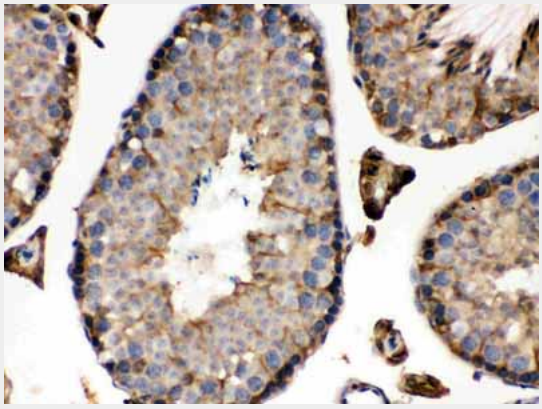


Figure 2. IHC analysis of IDH1 using anti-IDH1 antibody (ABO12287).IDH1 was detected in paraffin-embedded section of Mouse Testis Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-IDH1 Antibody (ABO12287) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

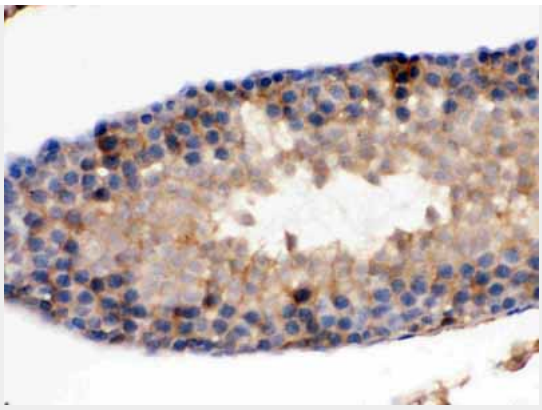


Figure 3. IHC analysis of IDH1 using anti-IDH1 antibody (ABO12287).IDH1 was detected in paraffin-embedded section of Rat Testis Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-IDH1 Antibody (ABO12287) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

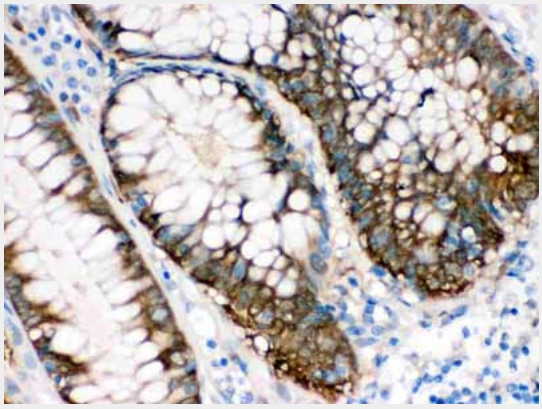


Figure 4. IHC analysis of IDH1 using anti-IDH1 antibody (ABO12287).IDH1 was detected in paraffin-embedded section of Human Intestinal Cancer Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-IDH1 Antibody (ABO12287) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

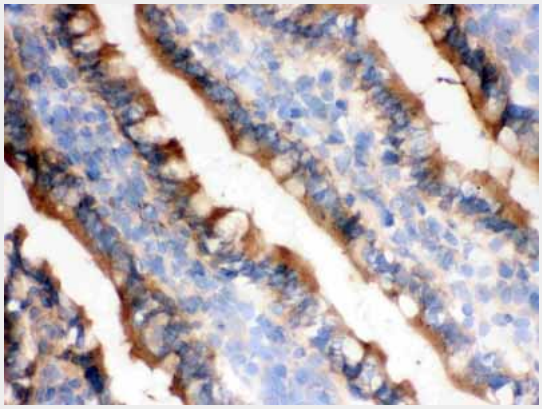


Figure 5. IHC analysis of IDH1 using anti-IDH1 antibody (ABO12287).IDH1 was detected in frozen

section of rat small intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-IDH1 Antibody (ABO12287) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

Anti-IDH1 Picoband Antibody - Background

Isocitrate dehydrogenase 1 (NADP+), soluble is an enzyme that in humans is encoded by the IDH1 gene. Isocitrate dehydrogenases catalyze the oxidative decarboxylation of isocitrate to 2-oxoglutarate. These enzymes belong to two distinct subclasses, one of which utilizes NAD(+) as the electron acceptor and the other NADP(+). Five isocitrate dehydrogenases have been reported: three NAD(+)-dependent isocitrate dehydrogenases, which localize to the mitochondrial matrix, and two NADP(+)-dependent isocitrate dehydrogenases, one of which is mitochondrial and the other predominantly cytosolic. Each NADP(+)-dependent isozyme is a homodimer. The protein encoded by this gene is the NADP(+)-dependent isocitrate dehydrogenase found in the cytoplasm and peroxisomes. It contains the PTS-1 peroxisomal targeting signal sequence. The presence of this enzyme in peroxisomes suggests roles in the regeneration of NADPH for intraperoxisomal reductions, such as the conversion of 2, 4-dienoyl-CoAs to 3-enoyl-CoAs, as well as in peroxisomal reactions that consume 2-oxoglutarate, namely the alpha-hydroxylation of phytanic acid. The cytoplasmic enzyme serves a significant role in cytoplasmic NADPH production. Alternatively spliced transcript variants encoding the same protein have been found for this gene.