10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-Methylmalonyl Coenzyme A mutase Antibody Picoband™ (monoclonal, 2D6)

Catalog # ABO14958

Product Information

Application	WB, IHC
Primary Accession	P22033
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Methylmalonyl Coenzyme A mutase Antibody Picoband™ (monoclonal, 2D6) . Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	4594
Other Names	Methylmalonyl-CoA mutase, mitochondrial, MCM, 5.4.99.2, Methylmalonyl-CoA isomerase, MMUT (HGNC:7526)
Calculated MW	83134
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat
Subcellular Localization	Mitochondrion.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Clone Names	Clone: 2D6
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human MUT, different from the related mouse sequence by one amino acid.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross-reactivity with other proteins.
Storage	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.

Protein Information

Name	MMUT (HGNC:7526)
Function	Catalyzes the reversible isomerization of methylmalonyl-CoA (MMCoA) (generated from branched-chain amino acid metabolism and degradation of dietary odd chain fatty acids and cholesterol) to succinyl-CoA (3-carboxypropionyl-CoA), a key intermediate of the tricarboxylic acid cycle.
Cellular Location	Mitochondrion matrix. Mitochondrion. Cytoplasm

Background

Methylmalonyl-CoA mutase (MUT) is a mitochondrial enzyme that catalyzes the isomerization of methylmalonyl-CoA to succinyl-CoA. This gene is mapped to 6p12.3. MUT requires a vitamin B12-derived prosthetic group, adenosylcobalamin (commonly referred to as AdoCbl), to function. And the product of this enzyme, succinyl-CoA, is a key molecule of the TCA cycle.

Images

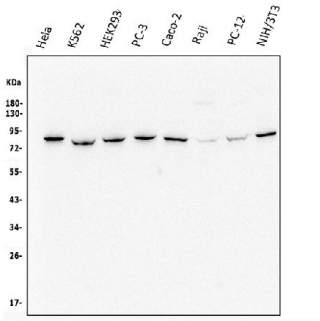
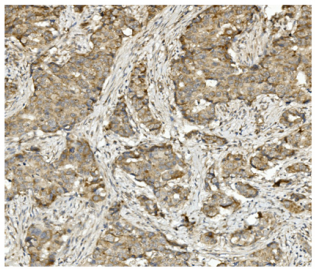


Figure 1. Western blot analysis of Methylmalonyl Coenzyme A using anti-Methylmalonyl Coenzyme A antibody (M01065).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates;
Lane 2: human K562 whole cell lysates;
Lane 3: human HEK293 whole cell lysates;
Lane 4: human PC-3 whole cell lysates;
Lane 5: human Caco-2 whole cell lysates;
Lane 6: human Raji whole cell lysates;
Lane 7: rat PC-12 whole cell lysates;
Lane 8: mouse NIH/3T3 whole cell 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 mouse anti-Methylmalonyl Coenzyme A antigen affinity purified monoclonal antibody (Catalog # M01065) at 0.5 µg/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 Methylmalonyl Coenzyme A at approximately 83KD. The expected band size for Methylmalonyl Coenzyme A is at 83KD.

Figure 2. IHC analysis of Methylmalonyl Coenzyme A using anti-Methylmalonyl Coenzyme A antibody (M01065).



Methylmalonyl Coenzyme A was detected in paraffin-embedded section of human mammary 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 1 µg/ml mouse anti-Methylmalonyl Coenzyme A Antibody (M01065) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

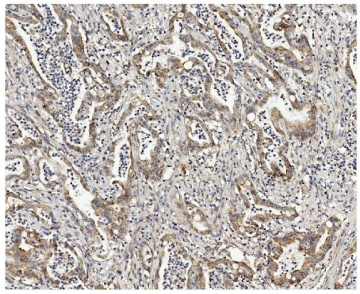


Figure 3. IHC analysis of Methylmalonyl Coenzyme A using anti-Methylmalonyl Coenzyme A antibody (M01065).
Methylmalonyl Coenzyme A was detected in paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Methylmalonyl Coenzyme A Antibody (M01065) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

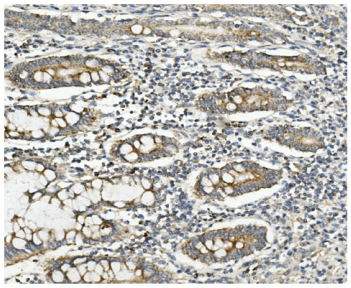


Figure 4. IHC analysis of Methylmalonyl Coenzyme A using anti-Methylmalonyl Coenzyme A antibody (M01065).
Methylmalonyl Coenzyme A was detected in paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Methylmalonyl Coenzyme A Antibody (M01065) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

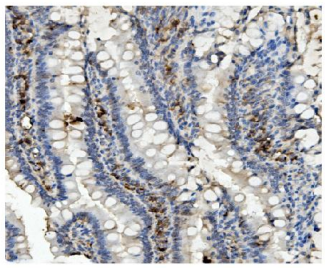


Figure 5. IHC analysis of Methylmalonyl Coenzyme A using anti-Methylmalonyl Coenzyme A antibody (M01065).
Methylmalonyl Coenzyme A was detected in paraffin-embedded section of rat intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Methylmalonyl Coenzyme A Antibody (M01065) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021)

with DAB as the chromogen.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.