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Anti-MPI Picoband™ Antibody (monoclonal, 5G5)

Catalog # ABO15000

Specification

Anti-MPI Picoband™ Antibody (monoclonal, 5G5) - Product Information

Application	**WB, IHC, IF, ICC, FC**
Primary Accession	P34949
Host	**Mouse**
Isotype	**Mouse IgG2a**
Reactivity	**Rat, Human**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-MPI Picoband™ Antibody (monoclonal, 5G5) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Rat.

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

Anti-MPI Picoband™ Antibody (monoclonal, 5G5) - Additional Information

Gene ID 4351

Other Names
Mannose-6-phosphate isomerase, 5.3.1.8, Phosphohexomutase, Phosphomannose isomerase, PMI, MPI (HGNC:7216), PMI1

Calculated MW
45 kDa KDa

Application Details
Western blot, 0.25-0.5 µg/ml, Human, Rat
 Immunohistochemistry (Paraffin-embedded Section), 2-5 µg/ml, Human
 Immunocytochemistry/Immunofluorescence, 5 µg/ml, Human
 Flow Cytometry, 1-3 µg/1x10^6 cells, Human

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.

Immunogen
E. coli-derived human MPI recombinant protein (Position: A2-K99). Human MPI shares 88.8% and 86.7% amino acid (aa) sequence identity with mouse and rat MPI, respectively.

Purification
Immunogen affinity purified.

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.

Anti-MPI Picoband™ Antibody (monoclonal, 5G5) - Protein Information

Name MPI (HGNC:7216)

Synonyms PMI1

Function
Isomerase that catalyzes the interconversion of fructose-6-P and mannose-6-P and has a critical role in the supply of D-mannose derivatives required for many eukaryotic glycosylation reactions.

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:Q924M7}.

Tissue Location
Expressed in all tissues, but more abundant in heart, brain and skeletal muscle.

Anti-MPI Picoband™ Antibody (monoclonal, 5G5) - 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-MPI Picoband™ Antibody (monoclonal, 5G5) - Images

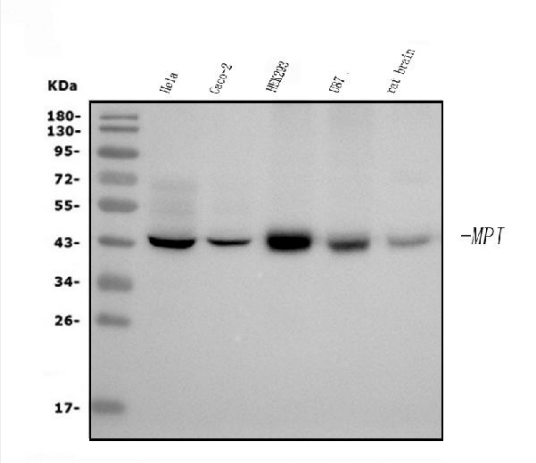

Figure 1. Western blot analysis of MPI using anti-MPI antibody (M00175-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

Lane 1: human HELA whole cell lysates,
Lane 2: human CACO-2 whole cell lysates,
Lane 3: human HEK293 whole cell lysates,
Lane 4: human U87 whole cell lysates,
Lane 5: rat brain 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 mouse anti-MPI antigen affinity purified monoclonal antibody (Catalog # M00175-2) 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 MPI at approximately 45KD. The expected band size for MPI is at 45KD.

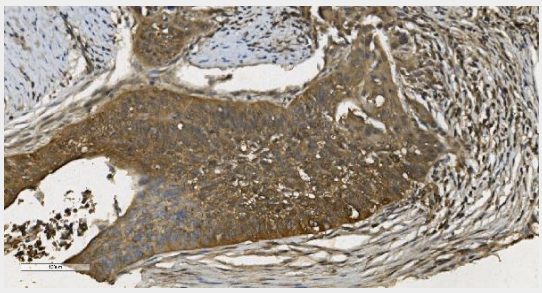

Figure 2. IHC analysis of MPI using anti-MPI antibody (M00175-2).
MPI was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-MPI Antibody (M00175-2) 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.

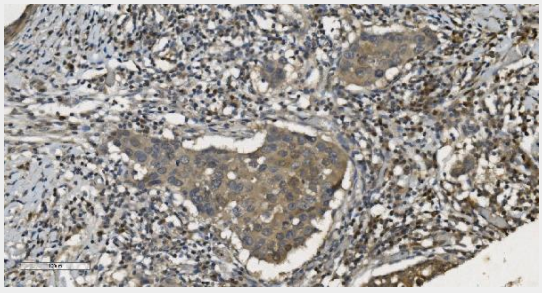

Figure 3. IHC analysis of MPI using anti-MPI antibody (M00175-2).
MPI was detected in paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-MPI Antibody (M00175-2) 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.

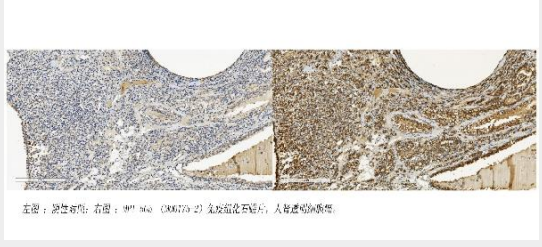

Figure 4. IHC analysis of MPI using anti-MPI antibody (M00175-2).
MPI was detected in paraffin-embedded section of human renal clear cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-MPI Antibody (M00175-2) 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.

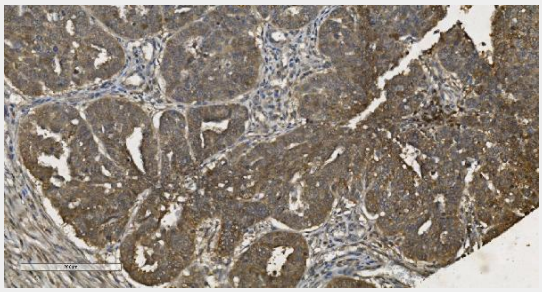

Figure 5. IHC analysis of MPI using anti-MPI antibody (M00175-2).
MPI was detected in paraffin-embedded section of human ovarian serous adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-MPI Antibody (M00175-2) 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.

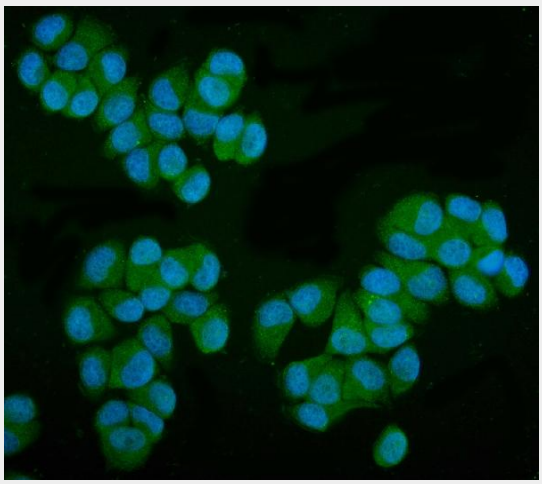

Figure 6. IF analysis of MPI using anti-MPI antibody (M00175-2).
MPI was detected in immunocytochemical section of T-47D cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-MPI Antibody (M00175-2) overnight at 4°C. DyLight®488 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.

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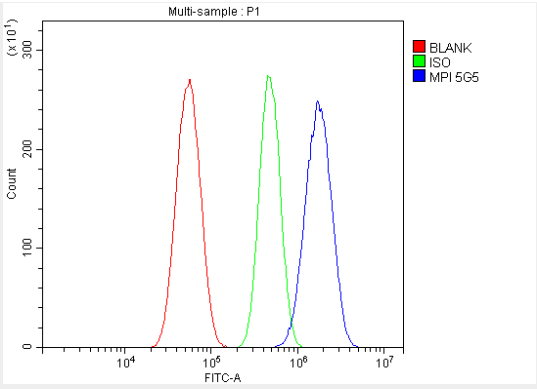

Figure 7. Flow Cytometry analysis of U87 cells using anti-MPI antibody (M00175-2).
Overlay histogram showing U87 cells stained with M00175-2 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-MPI Antibody (M00175-2, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Anti-MPI Picoband™ Antibody (monoclonal, 5G5) - Background

Mannose-6 phosphate isomerase (MPI), alternately phosphomannose isomerase (PMI), is an enzyme which facilitates the interconversion of fructose 6-phosphate (F6P) and mannose-6-phosphate (M6P). It also plays a critical role in maintaining the supply of D-mannose derivatives, which are required for most glycosylation reactions. Mutations in the MPI gene were found in patients with carbohydrate-deficient glycoprotein syndrome, type Ib. Alternative splicing results in multiple transcript variants. This MPI gene is mapped to 15q24.1.