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Anti-MPI Antibody Picoband™ (monoclonal, 11I4)

Catalog # ABO14902

Product Information

Application	WB, IF, ICC, FC
Primary Accession	P34949
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-MPI Antibody Picoband™ (monoclonal, 11I4) . Tested in Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 □g/ml.

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	46656
Application Details	Western blot, 0.1-0.5 □g/ml, Human Immunocytochemistry/Immunofluorescence, 5 □g/ml, Human Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Subcellular Localization	Cytoplasm
Tissue Specificity	Expressed in all tissues, but more abundant in heart, brain and skeletal muscle.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Clone Names	Clone: 11I4
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.
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	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.

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.

Images

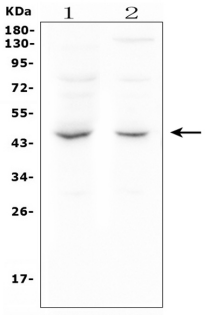
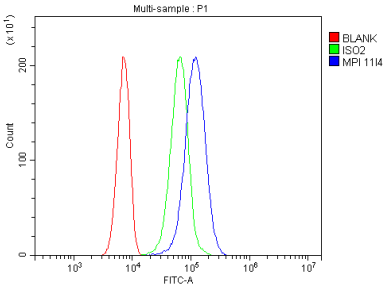


Figure 1. Western blot analysis of MPI using anti-MPI antibody (M00175).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human Caco-2 whole cell lysates
Lane 2: human Hela 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-MPI antigen affinity purified monoclonal antibody (Catalog # M00175) at 0.5 µg/mL overnight at 4℃, 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 47KD. The expected band size for MPI is at 47KD.

Figure 2. Flow Cytometry analysis of SiHa cells using anti-MPI antibody (M00175).
Overlay histogram showing U20S cells stained with M00175 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse



anti-MPI Antibody (M00175,1 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.

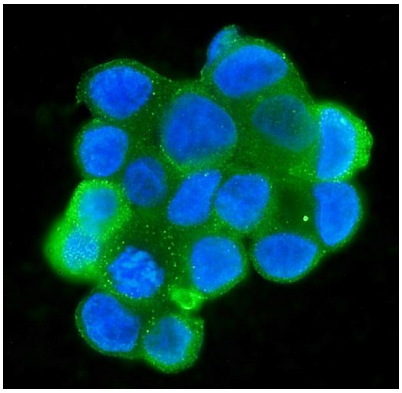


Figure 3. IF analysis of MPI using anti-MPI antibody (M00175).
MPI was detected in immunocytochemical section of MCF-7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-MPI Antibody (M00175) 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.