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Anti-MVP Antibody Picoband™ (monoclonal, 8B12)

Catalog # ABO14888

Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	Q14764
Host	Mouse
Isotype	Mouse IgG2a
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-MVP Antibody Picoband™ (monoclonal, 8B12) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	9961
Other Names	Major vault protein, MVP, Lung resistance-related protein, MVP, LRP
Calculated MW	99327
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Immunocytochemistry/Immunofluorescence, 5 □g/ml, Human Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Subcellular Localization	nuclear pore complex; Cytoplasm; perinuclear region
Tissue Specificity	Present in most normal tissues. Higher expression observed in epithelial cells with secretory and excretory functions, as well as in cells chronically exposed to xenobiotics, such as bronchial cells and cells lining the intestine. Overexpressed in many multidrug-resistant cancer cells.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Clone Names	Clone: 8B12
Immunogen	E.coli-derived human MVP recombinant protein (Position: A2-H259).
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	MVP
Synonyms	LRP
Function	Structural component of the vault particle, which is a massive ribonucleoprotein complex that may play a role in cargo transport and signal transduction (PubMed:40691181). Oligomerizes to form a cage-like vault complex, which can house several minor vault components including PARP4 (PubMed:40691181). Vaults may play a role in nucleo-cytoplasmic transport (PubMed:15133037). Down-regulates IFNG- mediated STAT1 signaling and subsequent activation of JAK (PubMed:16418217). Down-regulates SRC activity and signaling through MAP kinases (PubMed:16441665).
Cellular Location	Cytoplasm. Nucleus, nuclear pore complex. Cytoplasm, perinuclear region. Note=5% found in the nuclear pore complex (PubMed:15133037). Translocates from the nucleus to the cytoplasm upon EGF treatment (PubMed:16441665)
Tissue Location	Present in most normal tissues. Higher expression observed in epithelial cells with secretory and excretory functions, as well as in cells chronically exposed to xenobiotics, such as bronchial cells and cells lining the intestine. Overexpressed in many multidrug- resistant cancer cells

Background

Major vault protein is a protein that in humans is encoded by the MVP gene. This gene encodes the major component of the vault complex. Vaults are multi-subunit ribonucleoprotein structures that may be involved in nucleo-cytoplasmic transport. The encoded protein may play a role in multiple cellular processes by regulating the MAP kinase, JAK/STAT and phosphoinositide 3-kinase/Akt signaling pathways. The encoded protein also plays a role in multidrug resistance, and expression of this gene may be a prognostic marker for several types of cancer. Alternatively spliced transcript variants have been observed for this gene.

Images

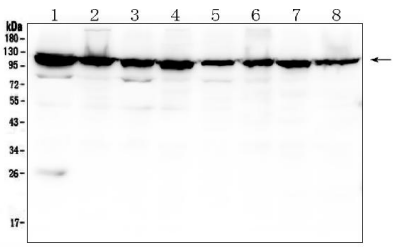


Figure 1. Western blot analysis of MVP using anti-MVP antibody (M00642-1).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human A549 tissue lysates,
Lane 2: human U2OS whole cell lysates,
Lane 3: human HepG2 whole cell lysates,
Lane 4: human THP-1 whole cell lysates,
Lane 5: human Hela whole cell lysates,
Lane 6: human SW620 whole cell lysates.
Lane 7: rat RH35 whole cell lysates.
Lane 8: mouse RAW246.7 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-MVP antigen affinity purified polyclonal antibody (Catalog # M00642-1) 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 MVP at approximately 100-110KD. The expected band size for MVP is at 99KD.

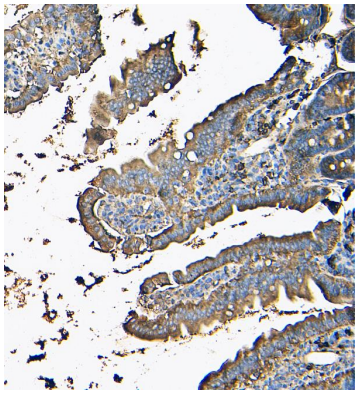


Figure 2. IHC analysis of MVP using anti-MVP antibody (M00642-1).
MVP was detected in paraffin-embedded section of mouse intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-MVP Antibody (M00642-1) 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.

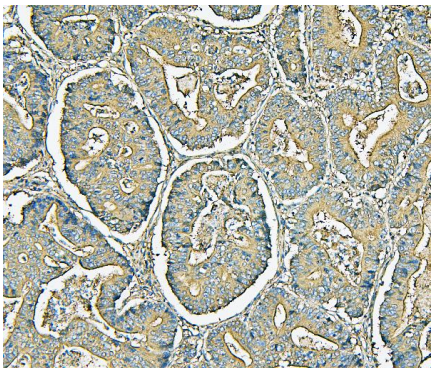


Figure 3. IHC analysis of MVP using anti-MVP antibody (M00642-1).
MVP was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-MVP Antibody (M00642-1) 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.

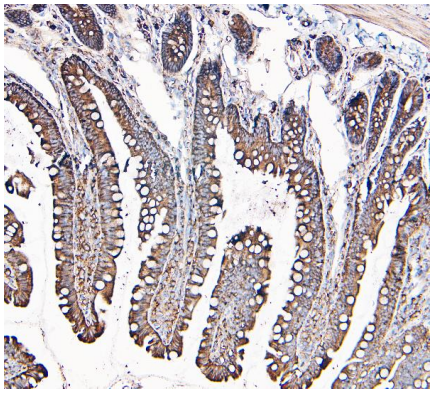
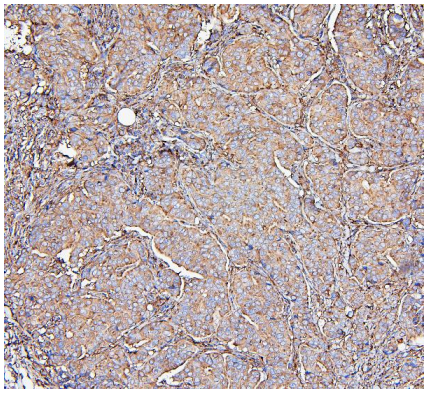


Figure 4. IHC analysis of MVP using anti-MVP antibody (M00642-1).
MVP was detected in paraffin-embedded section of rat intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-MVP Antibody (M00642-1) 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 MVP using anti-MVP antibody (M00642-1).
MVP 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-MVP Antibody (M00642-1) 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.

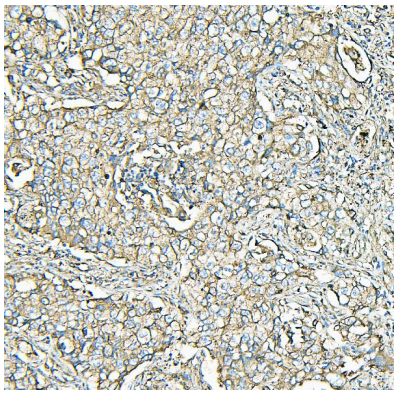


Figure 6. IHC analysis of MVP using anti-MVP antibody (M00642-1).
MVP was detected in paraffin-embedded section of human Lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-MVP Antibody (M00642-1) 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.

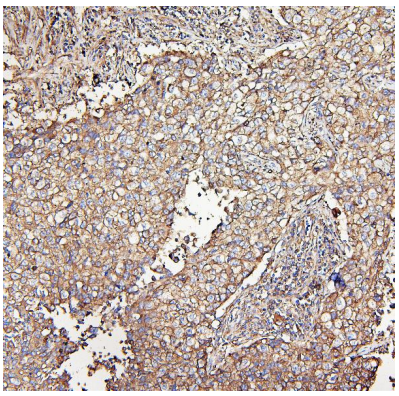


Figure 7. IHC analysis of MVP using anti-MVP antibody (M00642-1).
MVP was detected in paraffin-embedded section of human Lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-MVP Antibody (M00642-1) 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.

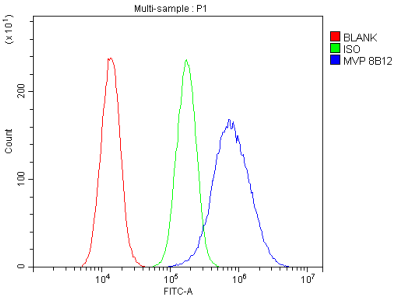
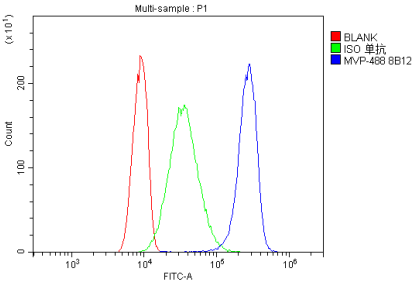


Figure 8. Flow Cytometry analysis of A549 cells using anti-MVP antibody (A00043-1).
Overlay histogram showing A549 cells stained with A00043-1 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-MVP Antibody (A00043-1, 1 µg/1x10^6 cells) for 30 min at 20°C. 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 9. Flow Cytometry analysis of A431 cells using anti-MVP antibody (A00043-1).
Overlay histogram showing A431 cells stained with A00043-1 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-MVP Antibody (A00043-1, 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.

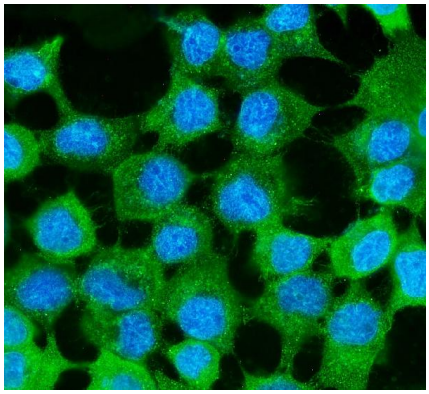


Figure 10. IF analysis of MVP using anti-MVP antibody (M00642-1).
MVP was detected in immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-MVP Antibody (M00642-1) 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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