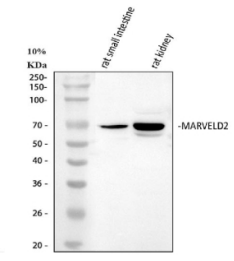
MARVELD2 Antibody / Tricellulin (FY12573)

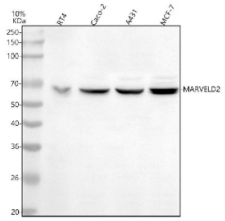
Catalog No.	Formulation	Size
FY12573	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

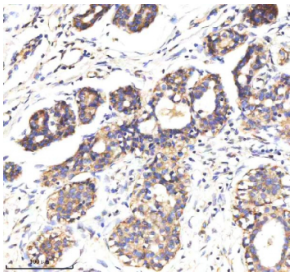
Availability	1-2 days
Species Reactivity	Human, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8N4S9
Localization	Cell junctions
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This MARVELD2 antibody is available for research use only.



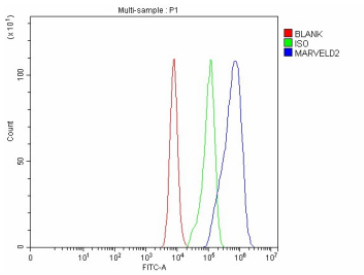
Western blot analysis of MARVELD2 using anti-MARVELD2 antibody. Lane 1: rat small intestine tissue lysates, Lane 2: rat kidney tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MARVELD2 antibody at 0.5 ug/ml overnight at 4oC, 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 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A specific band was detected for MARVELD2 at approximately 64 kDa. The expected molecular weight of MARVELD2 is ~64 kDa.



Western blot analysis of MARVELD2 using anti-MARVELD2 antibody. Lane 1: human RT4 whole cell lysates, Lane 2: human Caco-2 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human MCF-7 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-MARVELD2 antibody at 0.5 ug/ml overnight at 4oC, 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 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A specific band was detected for MARVELD2 at approximately 64 kDa. The expected molecular weight of MARVELD2 is ~64 kDa.



Immunohistochemical staining of MARVELD2 using anti-MARVELD2 antibody. MARVELD2 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MARVELD2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Flow Cytometry analysis of Caco-2 cells using anti-MARVELD2 antibody. Overlay histogram showing Caco-2 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-MARVELD2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

MARVELD2 antibody detects MARVEL domain-containing protein 2, also known as Tricellulin, a tight junction-associated protein that maintains epithelial barrier integrity at tricellular junctions where three cells meet. MARVELD2 is essential for forming the barrier against paracellular diffusion of macromolecules, thereby preserving tissue polarity and homeostasis. The MARVELD2 antibody is widely used in epithelial biology and cell junction research to study tight junction architecture, permeability control, and barrier dysfunction.

MARVELD2 is encoded by the MARVELD2 gene located on human chromosome 5q13.1. The protein is approximately 558 amino acids long and contains four transmembrane segments with a cytoplasmic C-terminal tail. It localizes at tricellular tight junctions, distinct from bicellular tight junction proteins such as occludin and claudins. MARVELD2 interacts with angulin family proteins and zonula occludens proteins to anchor the tricellular junction complex to the actin cytoskeleton.

The MARVELD2 antibody detects a 65 kilodalton band by western blot and exhibits strong junctional staining along epithelial borders in immunofluorescence. MARVELD2 regulates diffusion barrier properties by sealing the tricellular junction core, ensuring that epithelial sheets restrict large solute movement. Loss of MARVELD2 disrupts paracellular sealing, resulting in barrier leakage and increased susceptibility to inflammation and infection.

Mutations in MARVELD2 cause autosomal recessive deafness (DFNB49) due to impaired tight junction formation in the cochlea, leading to hair cell degeneration and hearing loss. Altered expression is also associated with inflammatory bowel disease and cancer metastasis, where weakened epithelial integrity promotes tissue invasion and immune infiltration.

As a critical determinant of epithelial sealing and tissue organization, MARVELD2 serves as a biomarker for tight junction function and epithelial polarity. NSJ Bioreagents provides a validated MARVELD2 antibody optimized for its applications, supporting research into barrier formation, epithelial biology, and junctional signaling.

Application Notes

Optimal dilution of the MARVELD2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human MARVELD2 recombinant protein (Position: R12-H496) was used as the immunogen for the MARVELD2 antibody.

Storage

After reconstitution, the MARVELD2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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