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Anti-gamma Catenin Antibody Picoband™ (monoclonal, 4C12D7)

Catalog # ABO16603

Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	P14923
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-gamma Catenin Antibody Picoband™ (monoclonal, 4C12D7) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	3728
Other Names	Junction plakoglobin, Catenin gamma, Desmoplakin III, Desmoplakin-3, JUP (HGNC:6207)
Calculated MW	81745
Application Details	Western blot, 0.25-0.5 □g/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 □g/ml, Human Immunocytochemistry/Immunofluorescence, 5 □g/ml, Human Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 4C12D7
Immunogen	E.coli-derived human gamma Catenin recombinant protein (Position: M556-A745). Human gamma Catenin shares 98% amino acid (aa) sequence identity with both mouse and rat gamma Catenin.
Purification	Immunogen affinity purified.
Storage	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 freezing and thawing.

Protein Information

Name	JUP (HGNC:6207)
Function	Common junctional plaque protein. The membrane-associated plaques are architectural elements in an important strategic position to influence the arrangement and function of both the cytoskeleton and the cells within the tissue. The presence of plakoglobin in both the desmosomes and in the intermediate junctions suggests that it plays a central role in the structure and function of submembranous plaques. Acts as a substrate for VE-PTP and is required by it to stimulate VE- cadherin function in endothelial cells. Can replace beta-catenin in E- cadherin/catenin adhesion complexes which are proposed to couple cadherins to the actin cytoskeleton (By similarity). May promote axon outgrowth and motor fiber repair via DSP-mediated recruitment to outgrowth tips (By similarity).
Cellular Location	Cell junction, adherens junction. Cell junction, desmosome. Cytoplasm, cytoskeleton. Cell membrane; Peripheral membrane protein. Cytoplasm {ECO:0000250|UniProtKB:Q9PVF7}. Cell junction {ECO:0000250|UniProtKB:Q9PVF7}. Nucleus {ECO:0000250|UniProtKB:Q9PVF7} Cell projection, axon {ECO:0000250|UniProtKB:Q02257}. Note=Cytoplasmic in a soluble and membrane-associated form. Colocalizes with DSG4 at desmosomes (PubMed:21495994).
Tissue Location	Expressed in cardiomyocytes in the heart (at protein level). Expressed by keratinocytes in the skin (at protein level) (PubMed:26604139).

Background

Junction plakoglobin(JUP), also known as gamma-catenin, is a protein that in humans is encoded by the JUP gene. It is a member of the catenin protein family and homologous to β-catenin, and it is mapped to 17q21.2. This gene encodes a major cytoplasmic protein that is the only known constituent common to submembranous plaques of both desmosomes and intermediate junctions. This protein forms distinct complexes with cadherins and desmosomal cadherins. Meanwhile, JUP may have distinct roles in Wnt signaling and cancer via differential effects on downstream target genes.

Images

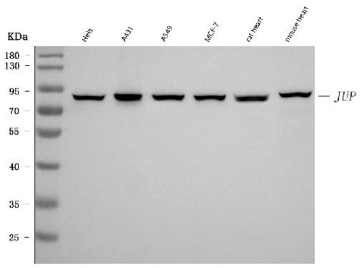


Figure 1. Western blot analysis of gamma Catenin using anti-gamma Catenin antibody (M01901-3).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates,
Lane 2: human A431 whole cell lysates,
Lane 3: human A549 whole cell lysates,
Lane 4: human MCF-7 whole cell lysates,
Lane 5: rat heart tissue lysates,
Lane 6: mouse heart 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 mouse

anti-gamma Catenin antigen affinity purified monoclonal antibody (Catalog # M01901-3) 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 gamma Catenin at approximately 82 kDa. The expected band size for gamma Catenin is at 82 kDa.

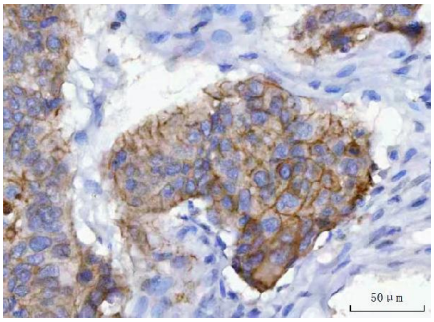


Figure 2. IHC analysis of gamma Catenin using anti-gamma Catenin antibody (M01901-3).
gamma Catenin was detected in a paraffin-embedded section of human laryngeal squamous cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-gamma Catenin Antibody (M01901-3) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

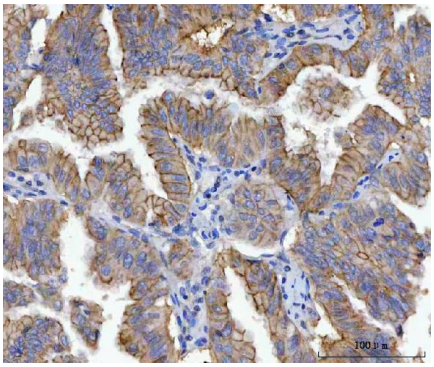


Figure 3. IHC analysis of gamma Catenin using anti-gamma Catenin antibody (M01901-3).
gamma Catenin was detected in a paraffin-embedded section of human lung adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-gamma Catenin Antibody (M01901-3) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

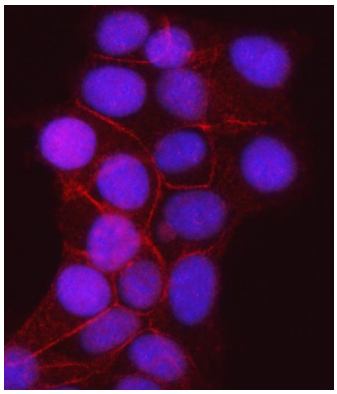
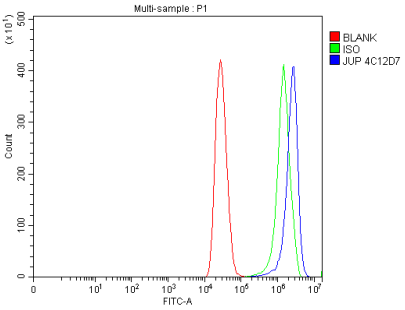


Figure 4. IF analysis of gamma Catenin using anti-gamma Catenin antibody (M01901-3).
gamma Catenin was detected in an immunocytochemical section of MCF-7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-gamma Catenin Antibody (M01901-3) 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.

Figure 5. Flow Cytometry analysis of MCF-7 cells using anti-gamma Catenin antibody (M01901-3).
Overlay histogram showing MCF-7 cells stained with



M01901-3 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-gamma Catenin Antibody (M01901-3, 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.

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