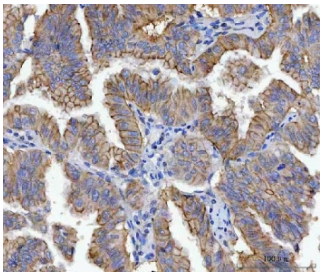
JUP Antibody 4C12D7 / Junction Plakoglobin Monoclonal Antibody [clone 4C12D7] (RQ7300)

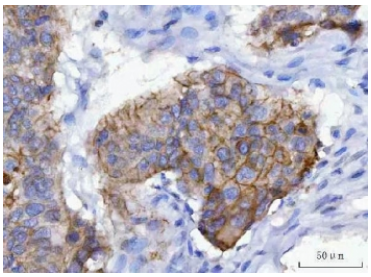
Catalog No.	Formulation	Size
RQ7300	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

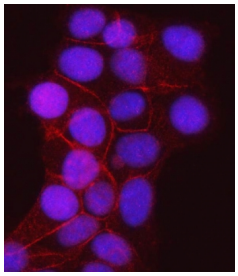
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1
Clone Name	4C12D7
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P14923
Localization	Cell surface, cytoplasmic, cell junctions
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This JUP Antibody 4C12D7 / Junction Plakoglobin Monoclonal Antibody is available for research use only.



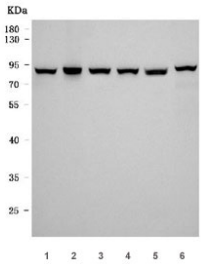
JUP Antibody 4C12D7 in Human Lung Adenocarcinoma IHC. Immunohistochemistry staining of FFPE human lung adenocarcinoma tissue with JUP Antibody clone 4C12D7. HIER was performed by boiling tissue sections in pH 8 EDTA for 20 min followed by cooling before testing. Brown staining is prominent along the borders of many tumor cells, producing a distinct junction-associated pattern with additional cytoplasmic signal. This localization is consistent with plakoglobin at epithelial cell-cell contacts and supports tissue detection with the Junction Plakoglobin Monoclonal Antibody.



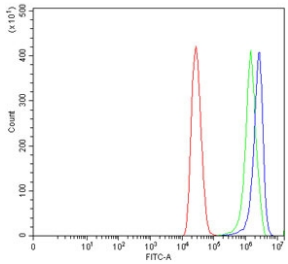
Immunohistochemistry staining of FFPE human laryngeal squamous cell carcinoma tissue with JUP Antibody clone 4C12D7. HIER was performed by boiling tissue sections in pH 8 EDTA for 20 min followed by cooling before testing. Strong brown staining outlines individual carcinoma cells and cell-cell borders, creating a prominent membranous/junctional pattern within the tumor nest. The staining demonstrates localization of JUP using the Junction Plakoglobin Monoclonal Antibody.



JUP Antibody 4C12D7 in Human MCF7 Breast Cancer Cells IF. Immunofluorescence staining of FFPE human MCF7 breast cancer cells with JUP Antibody clone 4C12D7 (red) and DAPI nuclear stain (blue). HIER was performed by steaming in pH 6 citrate buffer for 20 min. Red fluorescence is concentrated at the interfaces between adjacent cells, clearly outlining regions of cell-cell contact while the nuclei remain blue. This characteristic junctional distribution demonstrates plakoglobin localization with the Junction Plakoglobin Monoclonal Antibody.



JUP Antibody 4C12D7 Western Blot of Human Cell Lines and Rodent Heart. Western blot testing of human HeLa (lane 1), A431 (lane 2), A549 (lane 3), MCF7 (lane 4), rat heart (lane 5) and mouse heart (lane 6) lysates with JUP Antibody clone 4C12D7. A strong, discrete band is detected at approximately 86 kDa in all six samples, matching the expected molecular weight of junction plakoglobin. The clean single-band pattern across human, rat and mouse samples supports endogenous target recognition and cross-species detection with the Junction Plakoglobin Monoclonal Antibody.



JUP Antibody 4C12D7 in Human MCF7 Breast Cancer Cells FACS. Flow cytometry testing of human MCF7 breast cancer cells with JUP Antibody clone 4C12D7 at 1 ug/million cells following blocking with goat sera. Cells alone are shown in red, the isotype control in green, and JUP antibody staining in blue. The blue population shows a rightward fluorescence shift relative to both controls, demonstrating detection of endogenous plakoglobin in MCF7 cells with the Junction Plakoglobin Monoclonal Antibody.

Description

JUP Antibody 4C12D7 / Junction Plakoglobin Monoclonal Antibody recognizes junction plakoglobin, an armadillo repeat protein encoded by the JUP gene. Commonly known as plakoglobin or gamma catenin, JUP is a component of both desmosomes and adherens junctions, two intercellular adhesion structures that help maintain tissue architecture. By participating in junctional complexes, JUP contributes to mechanical coupling between neighboring cells and supports the structural integrity of epithelial and other mechanically stressed tissues.

Junction plakoglobin contains a central region composed of armadillo repeats that provides interaction surfaces for multiple junction-associated proteins. In desmosomes, JUP associates with desmosomal cadherins and plaque proteins involved in connecting cell-cell adhesion complexes to intermediate filaments. These interactions contribute to the ability of tissues to withstand mechanical stress. JUP can also participate in adherens junction complexes through interactions with classical cadherins, linking its biology to a second major form of intercellular adhesion.

JUP shares substantial structural similarity with beta catenin, including the characteristic armadillo repeat domain and the ability to associate with cadherin complexes. Despite this relationship, the proteins have distinct distributions, binding preferences, and biological functions. Their relative abundance and competition for interacting proteins can influence junction organization as well as signaling processes associated with cell adhesion. A JUP Antibody therefore provides a

means of specifically investigating junction plakoglobin without treating the related catenin proteins as interchangeable.

The biological importance of JUP is particularly evident in tissues that experience repeated mechanical stress. Disruption of plakoglobin-containing junctions can impair tissue cohesion, and pathogenic JUP variants have been associated with inherited disorders involving cardiac and epithelial tissues. Altered JUP expression and localization have also been investigated in cancer biology, where changes in intercellular adhesion and junctional organization may accompany loss of normal epithelial architecture and tumor progression.

The names JUP, plakoglobin, junction plakoglobin, and gamma catenin are encountered throughout the scientific literature and reflect the protein's gene designation, junctional localization, and relationship to the catenin family. NSJ Bioreagents offers clone 4C12D7 for research into JUP expression and the molecular organization of cell-cell junctions.

A JUP Antibody such as clone 4C12D7 provides a monoclonal reagent for investigating plakoglobin expression and intercellular adhesion, while a Junction Plakoglobin Monoclonal Antibody provides protein-based terminology for studies of desmosomes, adherens junctions, and junctional organization.

For a monoclonal targeting this junctional protein, see our Plakoglobin Antibody 15F11 / Gamma Catenin Monoclonal Antibody.

Application Notes

Optimal dilution of the JUP Antibody 4C12D7 / Junction Plakoglobin Monoclonal Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids M556-A745) was used as the immunogen for the JUP Antibody 4C12D7.

Storage

After reconstitution, the JUP Antibody 4C12D7 can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Plakoglobin antibody, Gamma Catenin antibody, Junction Plakoglobin antibody, Junctional Plakoglobin antibody, Desmoplakin III antibody

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