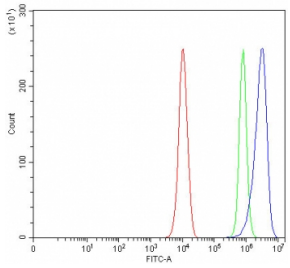
Angulin-2 Antibody / ILDR1 / Immunoglobulin-like domain-containing receptor 1 (RQ8564)

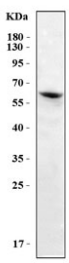
Catalog No.	Formulation	Size
RQ8564	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 days
Species Reactivity	Human
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q86SU0
Applications	Western Blot : 0.5-1ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This Angulin-2 antibody is available for research use only.



Flow cytometry testing of fixed and permeabilized human PC-3 cells with Angulin-2 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Angulin-2 antibody.



Western blot testing of human MCF7 cell lysate with Angulin-2 antibody. Predicted molecular weight ~63 kDa.

Description

Angulin 2 antibody is a valuable tool for research into cell junction biology, epithelial barrier formation, and hereditary hearing loss. The encoded protein, immunoglobulin like domain containing receptor 1 (ILDR1), is a single pass transmembrane protein that belongs to the angulin family. Angulin 2 is primarily localized at tricellular tight junctions, where three epithelial cells meet. By recruiting tricellulin and other junctional proteins, ILDR1 contributes to the formation of a continuous barrier that regulates paracellular permeability.

In epithelial tissues, Angulin 2 helps maintain polarity and barrier integrity, ensuring selective passage of ions and solutes. Its role at tricellular contacts is particularly important in organs where tight barrier function is critical, such as the inner ear, kidney, and intestine. Genetic disruption of ILDR1 impairs tricellular junction organization, leading to defective epithelial barriers and altered tissue physiology. Studies in model systems have highlighted ILDR1 as a structural organizer that links adhesion molecules with cytoskeletal components.

Mutations in the ILDR1 gene cause autosomal recessive nonsyndromic hearing loss DFNB42. This condition arises from impaired barrier function in the inner ear, where precise ionic balance is required for hair cell function and auditory signal transmission. Identifying ILDR1 as a deafness gene has provided key insights into the role of tricellular tight junctions in sensory physiology. Beyond hearing loss, ILDR1 is being explored for potential roles in cancer biology and immune regulation, where altered junctional integrity contributes to disease progression.

At the molecular level, Angulin 2 contains an extracellular immunoglobulin like domain that mediates adhesion and protein interactions, a transmembrane segment anchoring it in the plasma membrane, and a short cytoplasmic tail. This structure enables ILDR1 to interact with tricellulin and zonula occludens proteins, forming a scaffold that supports junctional assembly. These interactions ensure the continuity of epithelial barriers at tricellular contacts, complementing the function of bicellular tight junction proteins such as claudins and occludins.

The Angulin 2 antibody is widely applied in immunohistochemistry, immunofluorescence, western blotting, and ELISA to analyze protein expression and localization in tissues and cultured cells. These applications are essential for investigating epithelial biology, hereditary deafness, and junction related pathologies. For researchers studying barrier regulation, tight junction dynamics, or genetic disorders of the inner ear, the Angulin 2 antibody provides a specific and reliable detection tool. NSJ Bioreagents offers validated antibodies that ensure reproducibility and precision in advanced molecular studies.

Application Notes

Optimal dilution of the Angulin-2 antibody should be determined by the researcher.

Immunogen

An E.coli-derived human recombinant protein (amino acids Q29-S340) was used as the immunogen for the Angulin-2 antibody.

Storage

After reconstitution, the Angulin-2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.