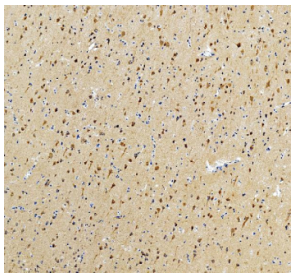
Intersectin 1 Antibody / ITSN1 (RQ8715)

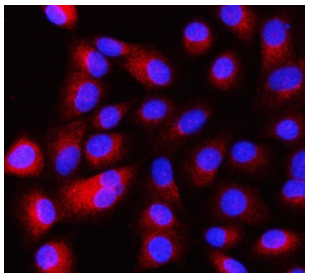
Catalog No.	Formulation	Size
RQ8715	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

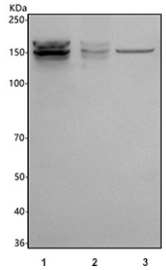
Availability	1-3 days
Species Reactivity	Human
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q15811
Localization	Cell membrane, cytoplasm
Applications	Western Blot : 1-2ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Intersectin 1 antibody is available for research use only.



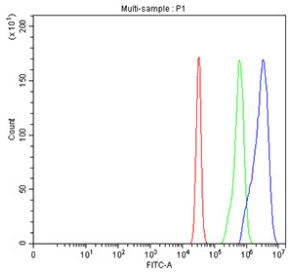
IHC staining of FFPE human brain tissue with Intersectin 1 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Immunofluorescent staining of FFPE human A549 cells with Intersectin 1 antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of human 1) Caco-2, 2) SiHa and 3) HeLa cell lysate with Intersectin 1 antibody. Predicted molecular weight: 105-195 kDa (multiple isoforms).



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

Description

Intersectin 1 antibody is an essential reagent for research on endocytosis, intracellular trafficking, and signal transduction. The encoded protein, ITSN1, is a multidomain scaffold that links clathrin-mediated vesicle formation with cytoskeletal regulation and small GTPase signaling. Intersectin 1 contains EH domains, SH3 domains, and a Dbl homology domain that allow it to interact with clathrin coat components, actin regulators, and endocytic enzymes. This architecture enables ITSN1 to integrate membrane dynamics with signaling pathways, making it a central coordinator of cellular communication.

In clathrin-mediated endocytosis, intersectin 1 organizes protein complexes required for receptor uptake and vesicle recycling. It binds to proteins such as dynamin and synaptojanin to support vesicle scission, while also engaging actin modulators to regulate cytoskeletal rearrangements during endocytic pit formation. In neurons, ITSN1 is enriched at synapses, where it contributes to efficient synaptic vesicle turnover and influences neurotransmitter release. This activity underscores its importance for neuronal signaling and synaptic plasticity.

Beyond its role in trafficking, ITSN1 regulates Rho family GTPases through its Dbl homology domain, which acts as a guanine nucleotide exchange factor (GEF) for Cdc42. By activating Cdc42, intersectin 1 drives actin cytoskeleton remodeling, cell polarity, and migration. This dual function in both endocytosis and GTPase signaling highlights ITSN1 as a multifunctional hub linking membrane dynamics with cellular responses to environmental stimuli.

Dysregulation of intersectin 1 has been associated with human disease. Genetic alterations in ITSN1 are implicated in Down syndrome, where dosage effects contribute to neurodevelopmental abnormalities. Changes in ITSN1 expression have also been observed in Alzheimer disease, suggesting a role in synaptic dysfunction and degeneration. In cancer research, ITSN1 is studied for its ability to influence receptor endocytosis and downstream survival pathways, making it a potential biomarker or therapeutic target.

The Intersectin 1 antibody is widely applied in western blotting, immunohistochemistry, immunofluorescence, and flow

cytometry to detect protein expression and localization across tissues. These applications support studies of endocytosis, neuronal biology, and signaling in normal and disease states. For researchers examining vesicle trafficking, actin regulation, or developmental disorders, the Intersectin 1 antibody provides a reliable detection tool. NSJ Bioreagents supplies validated antibodies designed to deliver reproducibility and accuracy for advanced molecular studies.

Application Notes

Optimal dilution of the Intersectin 1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived human recombinant protein (amino acids A522-P1721) was used as the immunogen for the Intersectin 1 antibody.

Storage

After reconstitution, the Intersectin 1 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.