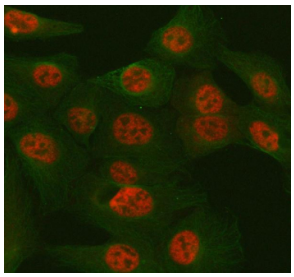
TULP3 Antibody / Tubby-related protein 3 (RQ7673)

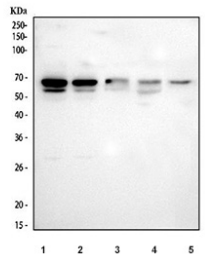
Catalog No.	Formulation	Size
RQ7673	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

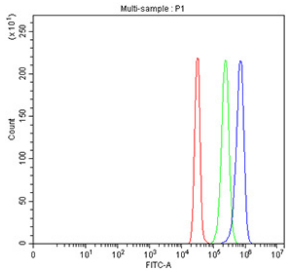
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O75386
Localization	Nuclear, cell projections, cytoplasm
Applications	Western Blot : 0.5-1ug/ml Direct ELISA : 0.1-0.5ug/ml Immunofluorescence : 5ug/ml
Limitations	This TULP3 antibody is available for research use only.



Immunofluorescent staining of FFPE human U-2 OS cells with TULP3 antibody (red) and Alpha Tubulin mAb (green). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of 1) human SH-SY5Y, 2) human 293T, 3) human SiHa, 4) human U-251 and 5) mouse lung tissue lysate with TULP3 antibody. Predicted molecular weight: 50-57 kDa and ~19 kDa (multiple isoforms).



Flow cytometry testing of fixed and permeabilized human SiHa cells with TULP3 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= TULP3 antibody.

Description

TULP3 antibody is used in research focused on intracellular trafficking and ciliary biology. The encoded protein, tubby-related protein 3, belongs to the tubby-like protein family, which is characterized by a conserved C-terminal tubby domain that facilitates binding to phosphoinositides and transcriptional regulation. TULP3 has emerged as an important adaptor that links membrane-associated cargo to the intraflagellar transport (IFT) machinery, a process critical for the proper localization of G protein-coupled receptors (GPCRs) and other signaling molecules within primary cilia.

TULP3 functions by bridging membrane proteins with the IFT-A complex, ensuring their transport into cilia. This activity is essential for regulating ciliary signaling pathways, including the Hedgehog pathway, which controls embryonic development, tissue patterning, and stem cell maintenance. Disruption of TULP3 function interferes with the trafficking of GPCRs, leading to defective ciliary signaling and contributing to developmental abnormalities and disease.

Genetic studies have linked TULP3 deficiency to ciliopathies, a group of disorders caused by defects in ciliary structure or function. These include conditions marked by neural tube defects, skeletal malformations, and organ developmental anomalies. The role of TULP3 in GPCR trafficking also suggests relevance in neurological signaling, as proper receptor distribution is crucial for synaptic function and neuronal communication. Its emerging importance in human health has made TULP3 a subject of growing interest in developmental biology and disease modeling.

On a molecular level, TULP3 contains a tubby domain that anchors it to phosphoinositide-rich membranes and an N-terminal region that binds the IFT-A complex. This dual functionality positions TULP3 as a key mediator of ciliary protein targeting. Research indicates that loss of TULP3 not only affects ciliary GPCRs but also alters signaling cascades that regulate growth, differentiation, and survival.

The TULP3 antibody is widely used in western blotting, immunohistochemistry, immunofluorescence, and flow cytometry to evaluate protein expression, subcellular localization, and disease-associated changes. These applications provide insight into how TULP3 regulates trafficking mechanisms and ciliary function. For investigators studying primary cilia, developmental disorders, or signaling pathways reliant on GPCR distribution, the TULP3 antibody is an indispensable research tool. NSJ Bioreagents offers rigorously validated antibodies that support reproducibility and accuracy in advanced studies.

Application Notes

Optimal dilution of the TULP3 antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids P62-H362) was used as the immunogen for the TULP3 antibody.

Storage

After reconstitution, the TULP3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.