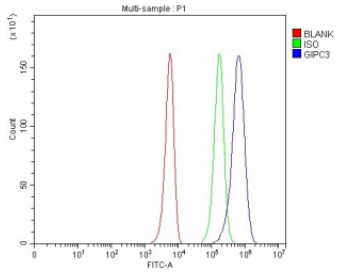
GIPC3 Antibody / PDZ domain-containing protein GIPC3 / C19orf64 (FY12533)

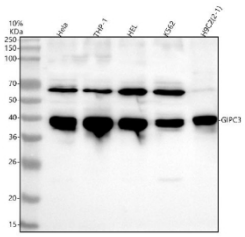
Catalog No.	Formulation	Size
FY12533	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

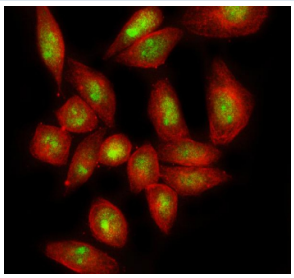
Availability	1-2 days
Species Reactivity	Human, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8TF64
Applications	ELISA: 0.1-0.5ug/ml Flow cytometry: 1-3ug/million cells Immunofluorescence: 5ug/ml Immunocytochemistry: 5ug/ml Western Blot: 0.25-0.5ug/ml
Limitations	This GIPC3 antibody is available for research use only.



Flow Cytometry analysis of K562 cells using anti-GIPC3 antibody. Overlay histogram showing K562 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-GIPC3 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of GIPC3 using anti-GIPC3 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human THP-1 whole cell lysates, Lane 3: human HEL whole cell lysates, Lane 4: human K562 whole cell lysates, Lane 5: rat H9C2(2-1) whole cell 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 rabbit anti-GIPC3 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. GIPC3 (~34 kDa predicted) was detected as a dominant band at ~40 kDa and a secondary band at ~65 kDa, consistent with the known upward migration and partial dimerization behavior of GIPC family PDZ proteins.



Immunofluorescent staining of GIPC3 using anti-GIPC3 antibody (green) and anti-Beta Tubulin antibody (red). GIPC3 was detected in immunocytochemical section of SiHa cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-GIPC3 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and DyLight 594 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

Description

GIPC3 antibody detects PDZ domain-containing protein GIPC3, a cytoplasmic adaptor protein involved in vesicular trafficking, receptor signaling, and auditory hair cell function. GIPC3 belongs to the GIPC family of PDZ domain-containing proteins that interact with transmembrane receptors to regulate endocytosis and intracellular transport. The GIPC3 antibody is used to study sensory biology, intracellular signaling, and genetic hearing loss.

GIPC3 is encoded by the GIPC3 gene located on human chromosome 19p13.3. The protein is approximately 36 kilodaltons and contains a central PDZ domain that binds C-terminal motifs of target proteins, as well as N- and C-terminal regions that mediate dimerization and association with myosin VI. Through these interactions, GIPC3 organizes membrane trafficking complexes that control receptor recycling and vesicle transport along actin filaments.

The GIPC3 antibody detects a 36 kilodalton band by western blot and shows cytoplasmic punctate localization in sensory epithelial cells. In the cochlea, GIPC3 is essential for hair cell synapse formation and auditory neurotransmission. Mutations in GIPC3 cause hereditary nonsyndromic deafness (DFNB72) by disrupting vesicular transport between inner hair cells and spiral ganglion neurons, leading to progressive hearing loss.

Functionally, GIPC3 modulates receptor signaling pathways, including those mediated by TGF-beta and IGF1, by regulating receptor endocytosis and recycling. It also interacts with proteins such as APPL1 and neuropilin, influencing cell migration and survival signaling. In neurons, GIPC3 may participate in axonal transport and synaptic vesicle cycling.

Beyond the auditory system, altered expression of GIPC3 has been linked to tumor progression and metastasis through modulation of growth factor receptor trafficking. Its PDZ-mediated interactions are targets for potential therapeutic inhibition in cancer and neurodegenerative disease. NSJ Bioreagents provides a validated GIPC3 antibody optimized for its applications, supporting research into vesicular trafficking, receptor regulation, and auditory function.

Application Notes

Optimal dilution of the GIPC3 antibody should be determined by the researcher.

Immunogen

E.coli-derived human GIPC3 recombinant protein (Position: H45-G312) was used as the immunogen for the GIPC3 antibody.

Storage

After reconstitution, the GIPC3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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