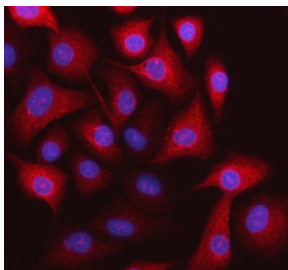


STOML3 Antibody / Stomatin-like protein 3 (FY12758)

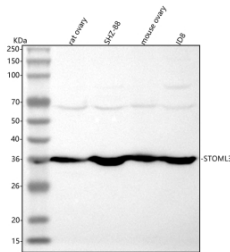
Catalog No.	Formulation	Size
FY12758	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

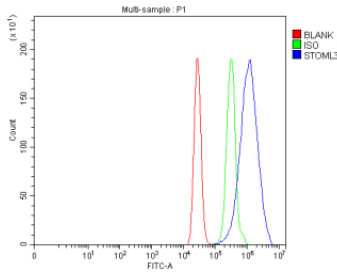
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	Q8TAV4
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This STOML3 antibody is available for research use only.



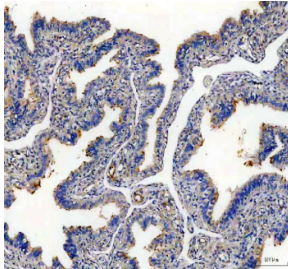
Immunofluorescent staining of STOML3 using anti-STOML3 antibody. STOML3 was detected in an immunocytochemical section of cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-STOML3 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of STOML3 using anti-STOML3 antibody. Lane 1: rat ovary tissue lysates, Lane 2: rat SHZ-88 whole cell lysates, Lane 3: mouse ovary tissue lysates, Lane 4: mouse ID8 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-STOML3 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. A specific band was detected for STOML3 at approximately 36 kDa. The expected molecular weight of STOML3 is ~32 kDa.



Flow Cytometry analysis of MCF-7 cells using anti-STOML3 antibody. Overlay histogram showing MCF-7 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-STOML3 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 (Red line) was also used as a control.



Immunohistochemical staining of STOML3 using anti-STOML3 antibody. STOML3 was detected in a paraffin-embedded section of human fallopian tube tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-STOML3 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.

Description

STOML3 antibody detects Stomatin-like protein 3, a membrane-associated modulator of mechanosensation and ion channel activity. Encoded by the STOML3 gene on chromosome 13q14.2, this protein belongs to the stomatin family, which includes membrane-bound scaffolding proteins involved in sensory transduction and membrane organization. STOML3 contains a conserved stomatin-like domain that mediates protein-lipid and protein-protein interactions, particularly with mechanosensitive ion channels such as PIEZO2 and ASICs. It localizes to vesicular and plasma membranes in sensory neurons, where it regulates mechanotransduction sensitivity.

STOML3 plays a crucial role in peripheral mechanosensation by enhancing the responsiveness of mechanosensitive ion channels to mechanical stimuli. It forms oligomeric complexes that influence channel gating and localization within mechanosensory end-organs. In dorsal root ganglion neurons, STOML3 interacts with PIEZO2 to amplify mechanosensitive currents required for touch and proprioception. Genetic deletion of STOML3 in mice leads to significant deficits in mechanical sensitivity without affecting nociception, demonstrating its specificity for tactile function.

The STOML3 antibody is widely used in neurobiology and sensory physiology research to detect Stomatin-like protein 3 and study its interactions with mechanosensory ion channels. Western blot analysis identifies a 32 kilodalton band corresponding to STOML3, while immunofluorescence shows punctate cytoplasmic staining in sensory neurons and mechanosensory tissues. The antibody allows visualization of STOML3 localization within neuronal projections and sensory end-organs, supporting investigations into the molecular basis of touch sensation.

Beyond sensory neurons, STOML3 expression has been reported in lung and kidney tissues, suggesting broader roles in mechanotransduction and membrane curvature regulation. It may also participate in lipid raft organization and vesicular trafficking. The STOML3 antibody enables researchers to explore these processes and provides a key reagent for

examining the molecular architecture of mechanosensitive signaling complexes. NSJ Bioreagents provides this antibody validated for its applications, ensuring high specificity and reproducibility in sensory and mechanotransduction studies.

Application Notes

Optimal dilution of the STOML3 antibody should be determined by the researcher.

Immunogen

E.coli-derived human STOML3 recombinant protein (Position: D2-A291) was used as the immunogen for the STOML3 antibody.

Storage

After reconstitution, the STOML3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.