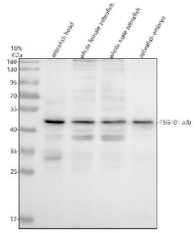
Zebrafish Tsg101 Antibody / Tsg101a / Tsg101b (RZ1108)

Catalog No.	Formulation	Size
RZ1108	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6IQ70, E7F4Y8
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Tsg101 antibody is available for research use only.



Western blot analysis of TSG101a/b protein using Zebrafish Tsg101 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~44 kDa.

Description

Zebrafish (Danio rerio) Tsg101 antibody detects Tsg101, a core component of the ESCRT-I complex involved in endosomal sorting, membrane remodeling, and cytokinetic abscission. In zebrafish, the tsg101 gene family includes paralogs tsg101a and tsg101b, both encoding conserved ubiquitin-binding proteins that participate in vesicle formation and trafficking. Tsg101 functions centrally in the endosomal sorting pathway by recognizing ubiquitinated cargo destined for multivesicular body formation. Because ESCRT pathways govern receptor downregulation, membrane scission events, and developmental signaling, Zebrafish Tsg101 antibody reagents are widely used in cell biology and embryogenesis research.

Tsg101 is essential for the formation of intraluminal vesicles within multivesicular bodies, a process required for proper degradation of membrane receptors and regulation of signaling cascades such as Notch, Wnt, EGFR, and TGF beta pathways. In zebrafish embryos, tsg101a and tsg101b show broad expression, with strong enrichment in proliferative and differentiating tissues including neural progenitors, somites, gut epithelium, and early cardiovascular structures. Disruption of Tsg101 function leads to defects in receptor turnover, membrane trafficking, and tissue patterning. These phenotypes underscore its role in shaping signal transduction dynamics during early development.

Beyond endosomal sorting, Tsg101 is required for membrane remodeling events such as cytokinetic abscission, where ESCRT machinery helps complete the final separation of daughter cells. Tsg101 also contributes to viral budding pathways in vertebrates by participating in ESCRT driven membrane scission; although this function is not developmentally central, it reflects the protein's mechanical role in shaping membranes. In zebrafish, Tsg101 linked membrane remodeling is relevant for neuroepithelial shaping, lumen formation, and epithelial integrity.

Tsg101 contains a ubiquitin-conjugating enzyme variant (UEV) domain that binds ubiquitin but lacks catalytic activity, enabling it to recruit ubiquitinated cargo without transferring ubiquitin. Additional low complexity and coiled-coil regions support interactions with ESCRT-I partners such as Vps28, Vps37, and Mvb12, as well as ESCRT-II and ESCRT-III components. These interactions coordinate cargo recognition with vesicle budding and membrane constriction. Zebrafish models allow visualization of these trafficking processes in vivo, making Tsg101 an ideal protein for studying endolysosomal dynamics.

Subcellular localization of Tsg101 includes endosomes, the limiting membrane of multivesicular bodies, the midbody during cytokinesis, and sites of active membrane remodeling. Known interaction partners include ubiquitinated receptor complexes, ESCRT components, and accessory proteins involved in cargo sorting and vesicle maturation. Because membrane trafficking influences nutrient uptake, signaling feedback loops, and cell morphology, Tsg101 plays a multi-layered role in vertebrate developmental biology.

A Zebrafish Tsg101 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining endosomal sorting, ESCRT function, membrane remodeling, and developmental signaling. This antibody targets Tsg101 for studies involving receptor trafficking, signal modulation, and tissue morphogenesis. NSJ Bioreagents provides the Zebrafish Tsg101 antibody to support research in membrane dynamics, embryonic patterning, and intracellular transport.

Application Notes

Optimal dilution of the Zebrafish Tsg101 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish TSG101 recombinant protein (amino acids G222-S275) was used as the immunogen for the Zebrafish Tsg101 antibody. This antibody will detect the a and b isoforms.

Storage

After reconstitution, the Zebrafish Tsg101 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.