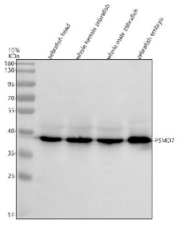
Zebrafish Psmd7 Antibody / 26S proteasome non-ATPase regulatory subunit 7 (RZ1295)

Catalog No.	Formulation	Size
RZ1295	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	Q7ZYX7
Applications	Western Blot: 0.5-1ug/ml
Limitations	This Zebrafish Psmd7 antibody is available for research use only.



Zebrafish Psmd7 Antibody Tissue WB. Western blot analysis of Psmd7 protein using Zebrafish Psmd7 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~37 kDa.

Description

The Zebrafish Psmd7 antibody targets Psmd7, also known as 26S proteasome non-ATPase regulatory subunit 7, a structural and regulatory component of the 19S proteasome lid essential for substrate deubiquitination, proteasome conformational control, and regulated protein turnover in Danio rerio. Zebrafish, also known as Danio rerio, express psmd7 widely during embryogenesis, with enriched levels in metabolically active and proliferative tissues including the developing brain, somites, notochord, heart, and endodermal organs. Psmd7 localizes to the cytoplasm and nucleus as part of the 19S lid, where it contributes to proteasome stability and coordination of substrate processing steps prior to

entry into the 20S catalytic chamber.

Psmd7 belongs to the non-ATPase cohort of the proteasome lid and interacts with adjacent subunits, including Psmd6 and Psmd8, to maintain the architecture required for efficient recognition and processing of polyubiquitinated substrates. It helps orient deubiquitinating enzymes and substrate receptors relative to the ATP-driven unfolding machinery. In zebrafish embryos, psmd7 expression reflects the need for continuous protein quality control as tissues diversify and signaling networks intensify. A Zebrafish Psmd7 antibody is suitable for detecting nuclear and cytoplasmic expression across these developmental zones, serving as a marker of active ubiquitin-mediated protein degradation.

Functionally, Psmd7 is central to regulated proteasomal turnover of signaling mediators, transcription factors, metabolic regulators, and misfolded or damaged proteins. Through its structural and coordinating roles within the 19S lid, Psmd7 enables substrate deubiquitination and efficient transfer to the AAA-ATPase ring for unfolding. In zebrafish, Psmd7-dependent proteolysis modulates major developmental pathways including Wnt, Notch, Hedgehog, Fgf, and NF-kB. These pathways govern germ layer formation, neural and mesodermal patterning, muscle development, cardiac morphogenesis, and immune-metabolic adaptation. Disruption of psmd7 expression destabilizes the lid complex, leads to accumulation of ubiquitinated proteins, induces proteotoxic stress, and produces developmental defects due to improper turnover of key regulatory molecules.

Structurally, zebrafish Psmd7 contains conserved protein-interaction interfaces that support lid assembly, maintain regulatory conformation, and position deubiquitinating enzymes for optimal activity. The zebrafish psmd7 gene maps to chromosome 18 and is regulated by developmental transcription factors, metabolic cues, and stress-responsive pathways associated with proteasome biogenesis. Co-localization studies detect Psmd7 in perinuclear proteasome clusters, cytoplasmic ubiquitin-rich sites, and nuclei of transcriptionally active cells, frequently overlapping with other lid subunits and 20S catalytic markers.

A Zebrafish Psmd7 antibody is suitable for detecting Psmd7 in studies focused on proteasome assembly, ubiquitin-dependent degradation, intracellular signaling turnover, developmental proteostasis, and cellular stress responses in Danio rerio. Its nuclear and cytoplasmic distribution offers insight into tissues undergoing high regulatory-degradation demand, enabling researchers to evaluate proteasome dysfunction, analyze proteotoxic stress states, and explore how precise protein turnover influences organ formation and embryonic patterning. This antibody is supplied for research use by NSJ Bioreagents.

This Zebrafish antibody is part of a broader Zebrafish / Danio rerio antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Zebrafish Psmd7 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Psmd7 recombinant protein (amino acids M1-N274) was used as the immunogen for the Zebrafish Psmd7 antibody.

Storage

After reconstitution, the Zebrafish Psmd7 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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