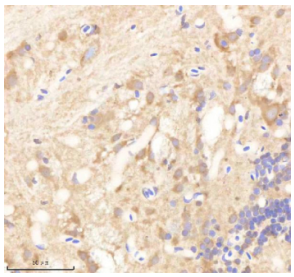
Zebrafish Psmd6 Antibody / 26S proteasome non-ATPase regulatory subunit 6 (RZ1294)

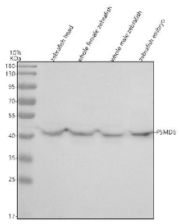
Catalog No.	Formulation	Size
RZ1294	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

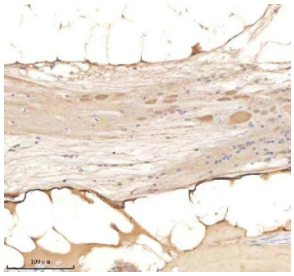
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q7ZWE5
Localization	Nuclear, cytoplasmic, extracellular
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Psmd6 antibody is available for research use only.



Zebrafish Psmd6 Antibody Brain Tissue IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Psmd6 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Psmd6 Antibody Tissue WB. Western blot analysis of Psmd6 protein using Zebrafish Psmd6 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~46 kDa.



Zebrafish Psmd6 Antibody Spinal Tissue IHC. Immunohistochemistry staining of FFPE zebrafish spinal tissue with Psmd6 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

The Zebrafish Psmd6 antibody targets Psmd6, also known as 26S proteasome non-ATPase regulatory subunit 6, an essential component of the 19S regulatory particle that stabilizes proteasome structure, coordinates substrate engagement, and regulates ubiquitin-mediated protein turnover in Danio rerio. Zebrafish, also known as Danio rerio, express psmd6 widely during embryogenesis, with enriched expression in proliferative and metabolically active tissues such as the developing brain, somites, notochord, heart, and endodermal organs. Psmd6 localizes to both the cytoplasm and nucleus as part of the 19S lid, where it participates in shaping proteasome architecture and modulating transitions between resting and substrate-processing conformations.

Psmd6 belongs to the non-ATPase cohort of the proteasome lid and contributes to structural stability and regulatory dynamics of the 26S proteasome. It helps orient deubiquitinating enzymes and substrate receptors relative to the ATP-driven unfolding machinery, ensuring efficient removal of ubiquitin chains and proper substrate delivery. In zebrafish embryos, psmd6 expression corresponds with periods of rapid protein turnover needed for developmental patterning, cell-cycle transitions, and metabolic adjustments. A Zebrafish Psmd6 antibody is suitable for detecting nuclear and cytoplasmic localization consistent with regions undergoing high proteasomal activity and quality-control demands.

Functionally, Psmd6 is required for efficient degradation of polyubiquitinated substrates. It influences proteasomal gating, contributes to recruitment of specific regulatory partners, and stabilizes the orientation of critical lid subunits including Psmd7 and Psmd8. In zebrafish, Psmd6-mediated proteolysis regulates major developmental pathways such as Wnt, Notch, Hedgehog, Fgf, and NF-kB, which control germ layer formation, neural differentiation, somite morphogenesis, cardiac development, and immune-metabolic responses. Disruption of psmd6 expression impairs proteasome assembly, leads to accumulation of ubiquitinated proteins, triggers proteotoxic stress, and disrupts normal developmental timing and tissue differentiation.

Structurally, zebrafish Psmd6 contains conserved regulatory and scaffold domains that mediate interactions with other lid-protein interfaces and with factors that coordinate ubiquitin-trimming and substrate handoff to the ATPase ring. The zebrafish psmd6 gene maps to chromosome 1 and is regulated by developmental growth cues, metabolic state, and stress-responsive transcription factors that modulate proteasome biogenesis. Co-localization studies detect Psmd6 in perinuclear proteasome-rich clusters, ubiquitin-associated cytoplasmic sites, and nuclei of transcriptionally active cells, frequently overlapping with 19S ATPase components and 20S catalytic cores.

A Zebrafish Psmd6 antibody is suitable for detecting Psmd6 in studies focused on proteasome assembly, ubiquitin-dependent degradation, developmental proteostasis, signaling pathway regulation, and cellular stress adaptation in Danio rerio. Its dual nuclear and cytoplasmic distribution offers a detailed readout of proteolytic demand and regulatory turnover

across developing tissues. Researchers use Psmd6 expression patterns to analyze proteasome dysfunction in mutants, evaluate proteotoxic conditions, and explore how regulated protein degradation shapes embryogenesis and organ development. 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 Psmd6 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Psmd6 recombinant protein.(amino acids T27-Q378) was used as the immunogen for the Zebrafish Psmd6 antibody.

Storage

After reconstitution, the Zebrafish Psmd6 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.