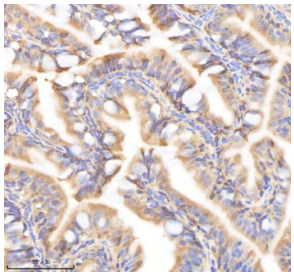
Zebrafish Psmc2 Antibody / 26S proteasome regulatory subunit 7 (RZ1289)

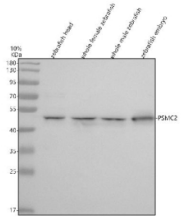
Catalog No.	Formulation	Size
RZ1289	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

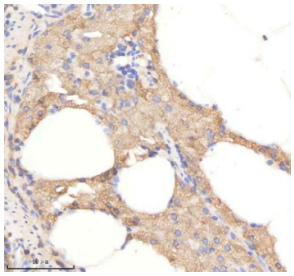
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q7T3B1
Localization	Cytoplasm
Applications	Western Blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Zebrafish Psmc2 antibody is available for research use only.



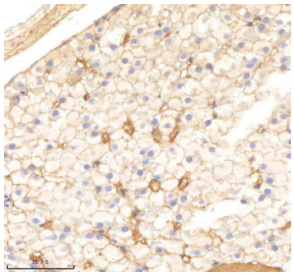
Zebrafish Psmc2 Antibody Colon Tissue IHC. Immunohistochemistry staining of FFPE zebrafish colon tissue with Psmc2 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



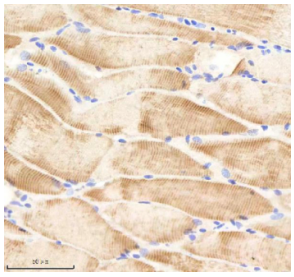
Zebrafish Psmc2 Antibody Tissue WB. Western blot analysis of Psmc2 protein using Zebrafish Psmc2 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~49 kDa.



Zebrafish Psmc2 Antibody Pancreas Tissue IHC. Immunohistochemistry staining of FFPE zebrafish pancreas tissue with Psmc2 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Psmc2 Antibody Liver Tissue IHC. Immunohistochemistry staining of FFPE zebrafish liver tissue with Psmc2 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Psmc2 Antibody Muscle Tissue IHC. Immunohistochemistry staining of FFPE zebrafish muscle tissue with Psmc2 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 Psmc2 antibody targets Psmc2, also known as 26S proteasome regulatory subunit 7, a AAA+ ATPase of the 19S regulatory particle essential for ATP-dependent protein unfolding, substrate translocation, and ubiquitin-mediated proteolysis in Danio rerio. Zebrafish, also known as Danio rerio, express psmc2 strongly throughout early embryogenesis, with high enrichment in proliferative and metabolically active tissues such as the developing brain, somites, notochord, heart, and endodermal organs. Psmc2 localizes to the cytoplasm and nucleus as part of the hexameric ATPase ring of the 19S base, where it provides mechanical force for substrate processing prior to entry into the 20S catalytic chamber.

Psmc2 belongs to the AAA-ATPase family and corresponds to the Rpt1 subunit in yeast nomenclature. It contains conserved Walker A and Walker B motifs that mediate ATP binding and hydrolysis, enabling the conformational changes required for unfolding and translocating ubiquitinated substrates. In zebrafish embryos, psmc2 expression correlates with stages of rapid tissue remodeling and protein turnover. A Zebrafish Psmc2 antibody is suitable for detecting cytoplasmic and nuclear localization consistent with regions of high proteasomal activity where cellular differentiation, metabolic shifts, and signaling turnover are tightly regulated.

Functionally, Psmc2 is required for assembly and performance of the 26S proteasome. Through ATP-driven remodeling, Psmc2 cooperates with other AAA-ATPases to remove ubiquitin chains, unfold regulatory proteins, and feed substrates into the proteolytic core. In zebrafish, Psmc2-dependent degradation influences major developmental pathways including Wnt, Notch, Hedgehog, Fgf, and NF-kB signaling. These pathways govern germ layer patterning, neural differentiation, muscle formation, cardiac development, and metabolic homeostasis. Loss or disruption of psmc2 impairs proteasome assembly, causes accumulation of ubiquitinated proteins, induces proteotoxic stress, and results in widespread developmental abnormalities due to failed turnover of key regulatory factors.

Structurally, zebrafish Psmc2 forms part of the six-member AAA-ATPase ring that caps the 20S proteasome and creates a gated channel for substrate translocation. Its ATP-dependent mechanical activity coordinates with ubiquitin receptors,

deubiquitinating enzymes, and the alpha-ring of the 20S core. The zebrafish psmc2 gene maps to chromosome 9 and is regulated by proliferative cues, metabolic signaling, and proteostasis-related transcription factors. Co-localization studies detect Psmc2 in perinuclear proteasome-rich clusters and within nuclei of transcriptionally active cells, often overlapping with ubiquitin accumulation zones, other Rpt ATPases, and catalytic beta-subunit markers.

A Zebrafish Psmc2 antibody is suitable for detecting Psmc2 in studies focused on ubiquitin-mediated protein degradation, proteasome assembly, ATP-driven substrate processing, developmental proteostasis, and signaling pathway regulation in Danio rerio. Its distribution across nuclear and cytoplasmic compartments provides a detailed readout of tissues undergoing high proteolytic demand, enabling researchers to assess proteasome dysfunction, analyze proteotoxic stress responses, and explore how controlled degradation of transcription factors and signaling intermediates shapes embryonic patterning and organ formation. 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 Psmc2 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Psmc2 recombinant protein (amino acids K34-N433) was used as the immunogen for the Zebrafish Psmc2 antibody.

Storage

After reconstitution, the Zebrafish Psmc2 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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