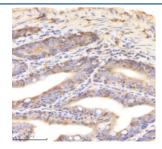


Zebrafish Psmd8 Antibody / 26S proteasome non-ATPase regulatory subunit 8 (RZ1296)

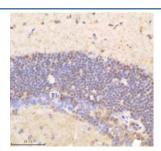
Catalog No.	Formulation	Size
RZ1296	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

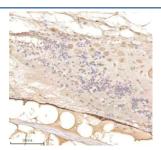
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6IQH4
Localization	Cytoplasmic, nuclear
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Psmd8 antibody is available for research use only.



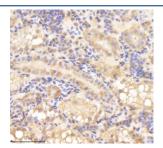
IHC staining of zebrafish Psmd8 protein using Zebrafish Psmd8 antibody, HRP-labeled secondary and DAB substrate. Psmd8 was detected in a paraffin-embedded section of zebrafish colon tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Psmd8 protein using Zebrafish Psmd8 antibody, HRP-labeled secondary and DAB substrate. Psmd8 was detected in a paraffin-embedded section of zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Psmd8 protein using Zebrafish Psmd8 antibody, HRP-labeled secondary and DAB substrate. Psmd8 was detected in a paraffin-embedded section of zebrafish spinal tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Psmd8 protein using Zebrafish Psmd8 antibody, HRP-labeled secondary and DAB substrate. Psmd8 was detected in a paraffin-embedded section of zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Psmd8 (Proteasome 26S subunit, non-ATPase 8) is an essential component of the 19S regulatory particle of the 26S proteasome, playing a vital role in the ATP-dependent degradation of ubiquitinated proteins. As part of the regulatory complex, Psmd8 is involved in the recognition, unfolding, and translocation of substrates into the 20S catalytic core, where they are degraded into smaller peptides. This process is critical for maintaining cellular homeostasis, regulating the cell cycle, and ensuring the proper turnover of proteins, which helps prevent the accumulation of damaged or misfolded proteins.

In zebrafish, Psmd8 is the ortholog of the human PSMD8 gene, sharing a high degree of sequence conservation and functional similarity. Both the zebrafish and human versions of Psmd8 contain conserved domains required for proteasomal assembly and interaction with other proteasomal subunits, facilitating the proper function of the 26S proteasome complex. The conservation between these species underscores the value of zebrafish as a model organism for studying proteasomal mechanisms and their contribution to human health.

Psmd8 in zebrafish may also have isoforms due to alternative splicing events. These isoforms, while not fully characterized, could exhibit tissue-specific expression or distinct functional roles in different stages of development. Variations in isoforms can allow for the fine-tuning of proteasomal activity in response to different cellular environments, including stress or differentiation signals. The presence of multiple isoforms enhances the adaptability of the proteasome in maintaining cellular balance across various tissues.

In zebrafish, Psmd8 is expressed in several tissues, particularly those involved in high protein turnover and cellular division, such as the brain, liver, and kidney. This broad expression pattern highlights its essential role in controlling the degradation of regulatory proteins and supporting cellular processes like growth, stress responses, and apoptosis.

The functional conservation of Psmd8 between zebrafish and humans makes it an excellent model for understanding the molecular mechanisms underlying proteasomal dysfunctions in humans. Alterations in PSMD8 function have been implicated in various diseases, including neurodegenerative disorders and cancers, where impaired proteasomal degradation leads to the accumulation of toxic proteins. Zebrafish Psmd8 offers a valuable tool for studying these diseases and exploring potential therapeutic strategies aimed at modulating proteasomal activity to treat proteostasis-related disorders.

Optimal dilution of the Zebrafish Psmd8 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Psmd8 recombinant protein (amino acids M1-V267) was used as the immunogen for the Zebrafish Psmd8 antibody.

Storage

After reconstitution, the Zebrafish Psmd8 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.