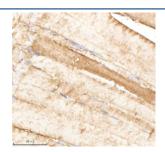


Zebrafish Psmb1 Antibody / Proteasome subunit beta type 1 (RZ1287)

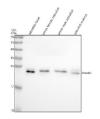
Catalog No.	Formulation	Size
RZ1287	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	Q6DRF3
Localization	Cytoplasmic, Nuclear
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Psmb1 antibody is available for research use only.



IHC staining of FFPE zebrafish muscle tissue with Psmb1 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis of Psmb1 protein using Zebrafish Psmb1 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~26 kDa.

Description

Psmb1 (Proteasome subunit beta type 1) is a critical structural component of the 20S core particle within the proteasome complex. The proteasome is essential for the regulated degradation of intracellular proteins, particularly those tagged with ubiquitin. Psmb1 is one of the seven beta subunits that form the inner rings of the 20S proteasome and is involved in maintaining the structural integrity and assembly of the complex, although it does not possess catalytic activity itself.

In zebrafish, Psmb1 is an ortholog of the human PSMB1 gene. The zebrafish and human proteins are highly conserved in sequence and function, indicating evolutionary preservation of this essential proteasome subunit. This makes zebrafish a suitable model organism for investigating proteasome biology and related human diseases.

Zebrafish Psmb1 may have isoforms resulting from alternative splicing, although the predominant isoform is primarily responsible for incorporation into the core proteasome structure. These potential isoforms may contribute to tissue-specific regulation of proteasome function or be expressed under certain developmental or stress conditions.

During zebrafish development, Psmb1 is ubiquitously expressed, reflecting the widespread requirement for protein turnover in cellular homeostasis, growth, and differentiation. Expression is especially prominent in tissues with high metabolic activity, such as the brain, eye, muscle, and liver. Disruption of Psmb1 expression or proteasome assembly can impair embryonic development and lead to cellular stress due to the accumulation of damaged or misfolded proteins.

In humans, alterations in proteasome function including mutations in PSMB1 have been implicated in disorders such as neurodegeneration, cancer, and autoimmune syndromes. Zebrafish Psmb1 is therefore a valuable research target for understanding the roles of the proteasome in development, disease, and therapeutic intervention strategies that modulate proteasomal activity.

Application Notes

Optimal dilution of the Zebrafish Psmb1 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Psmb1 recombinant protein (amino acids Y18-D237) was used as the immunogen for the Zebrafish Psmb1 antibody.

Storage

After reconstitution, the Zebrafish Psmb1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.