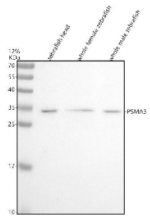
Zebrafish Psma3 Antibody / Proteasome subunit alpha type 3 (RZ1285)

Catalog No.	Formulation	Size
RZ1285	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	Q4V918
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Psma3 antibody is available for research use only.



Western blot analysis of Psma3 protein using Zebrafish Psma3 antibody and 1) zebrafish head, 2) whole female zebrafish and 3) whole male zebrafish tissue lysate. Predicted molecular weight ~28 kDa.

Description

Psma3 (Proteasome subunit alpha type 3) is a structural component of the 20S core particle of the proteasome, a large multi-protein complex responsible for the degradation of intracellular proteins. Psma3 belongs to the alpha subunit family, which forms the outer rings of the barrel-shaped proteasome structure. These alpha subunits serve primarily as a gate for substrate entry and help regulate access to the proteolytically active beta subunits located inside the proteasome core.

In zebrafish, Psma3 is an ortholog of the human PSMA3 gene. The zebrafish and human proteins are highly conserved in both sequence and structure, especially in domains critical for proteasome assembly and function. This conservation supports the use of zebrafish as a reliable model for studying proteasome dynamics, protein turnover, and diseases

related to impaired proteostasis.

Zebrafish Psma3 may exist in multiple isoforms generated through alternative splicing. These isoforms can differ in their regulatory elements, cellular localization, or tissue-specific expression patterns, although the predominant isoform is typically involved in the canonical function of proteasome assembly and protein degradation.

During zebrafish embryogenesis, Psma3 is broadly expressed across many tissue types, reflecting the fundamental role of the proteasome in maintaining cellular protein quality. Expression is particularly high in metabolically active tissues such as the developing brain, eye, liver, and somites. The protein is essential for embryonic growth, tissue morphogenesis, and cellular stress responses.

In human systems, dysfunction of PSMA3 or related proteasome components has been linked to disorders such as cancer, neurodegeneration, and autoinflammatory diseases. Given the high degree of conservation, zebrafish Psma3 is a valuable model for investigating the role of the proteasome in normal physiology and in the pathogenesis of diseases involving impaired protein degradation or ubiquitin-proteasome system dysfunction.

Application Notes

Optimal dilution of the Zebrafish Psma3 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Psma3 recombinant protein (amino acids D84-R130) was used as the immunogen for the Zebrafish Psma3 antibody.

Storage

After reconstitution, the Zebrafish Psma3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.