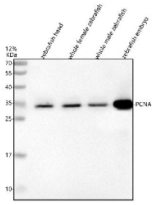
Zebrafish Pcna Antibody / Proliferating cell nuclear antigen (RZ1265)

Catalog No.	Formulation	Size
RZ1265	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	Q9PTP1
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Pcna antibody is available for research use only.



Western blot analysis of Pcna protein using Zebrafish Pcna antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~29 kDa, commonly observed at 29-36 kDa.

Description

Pcna (Proliferating Cell Nuclear Antigen) is a critical protein involved in DNA replication and repair. It functions as a clamp that encircles DNA, stabilizing the DNA polymerase during replication and facilitating the progression of the replication fork. Pcna also plays a key role in DNA damage response, cell cycle regulation, and chromatin remodeling, ensuring the integrity of the genome during cell division.

In zebrafish, Pcna is an ortholog of the human PCNA gene. Both zebrafish and human Pcna proteins are highly conserved in terms of their sequence and function, with both being involved in regulating DNA replication and cell cycle progression. The zebrafish Pcna protein shares the same functional domains as the human protein, including the sliding

clamp domain, which is essential for its role in DNA polymerase stabilization and in facilitating replication fork progression.

Zebrafish Pcna is expressed in a variety of tissues, with prominent expression observed during embryonic development in rapidly proliferating cells. It is especially important in mitotic cells, where it helps facilitate efficient DNA replication during the S-phase of the cell cycle. In addition, Pcna participates in DNA repair pathways, including base excision repair and nucleotide excision repair, ensuring the correction of any replication errors or DNA damage caused by environmental stress.

The function of Pcna in zebrafish has been extensively studied, especially due to its role in development and tissue regeneration. During embryogenesis, Pcna is highly expressed in the neural tissue, heart, and muscle, which require constant cell division and DNA replication. Furthermore, Pcna is involved in the response to DNA damage and in the regulation of cell cycle checkpoints, especially in tissues undergoing rapid growth and development.

Given its central role in cellular proliferation, DNA repair, and genome stability, zebrafish Pcna is an essential protein for studying cell cycle regulation, DNA replication, mutagenesis, and genomic integrity. The high degree of conservation between zebrafish and human Pcna makes it an ideal model for investigating human diseases associated with cell cycle dysregulation, such as cancer and genetic disorders related to DNA repair.

Application Notes

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

Immunogen

E. coli-derived zebrafish Pcna recombinant protein (amino acids M1-S260) was used as the immunogen for the Zebrafish Pcna antibody.

Storage

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