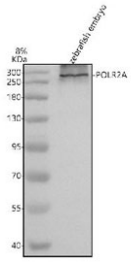
Zebrafish Polr2a Antibody / DNA-directed RNA polymerase subunit (RZ1272)

Catalog No.	Formulation	Size
RZ1272	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	A0A0R4IMS9
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Polr2a antibody is available for research use only.



Western blot analysis of Polr2a protein using Zebrafish Polr2a antibody and zebrafish embryo tissue lysates. Predicted molecular weight ~217 kDa but commonly observed at up to ~270 kDa (human similarity).

Description

Polr2a (RNA polymerase II subunit alpha) is a critical protein component of RNA polymerase II, the enzyme responsible for transcribing protein-coding genes into messenger RNA (mRNA) in eukaryotic cells. Polr2a is a core subunit of the RNA polymerase II complex, which plays a pivotal role in gene expression and transcription regulation. The protein is involved in the initiation, elongation, and termination of transcription, as well as the processing of nascent RNA transcripts.

In zebrafish, Polr2a is an ortholog of the human POLR2A gene. The zebrafish and human Polr2a proteins are highly

conserved, indicating a similar functional role in transcriptional regulation across species. Both proteins are integral parts of the RNA polymerase II complex, ensuring the synthesis of mRNA and playing a vital role in cellular gene expression.

Polr2a is widely expressed across zebrafish tissues, including the brain, heart, and muscle, reflecting its essential function in general cellular processes and development. It is crucial for the transcription of protein-coding genes during early embryonic development, cell differentiation, and growth. The proper functioning of Polr2a is required for cell cycle progression, cellular maintenance, and response to environmental signals.

Zebrafish Polr2a has isoforms, which may exhibit variations in their expression patterns and functional properties. These isoforms could be related to developmental stages and tissue-specific functions, helping to fine-tune transcriptional regulation during embryogenesis and tissue-specific differentiation. The presence of isoforms may also suggest a level of functional specialization in response to cellular demands during development and environmental adaptation.

Given its role in transcription regulation, gene expression, and embryonic development, zebrafish Polr2a is a vital protein for studying gene regulation, transcriptional control, and developmental biology. It also provides a useful model for investigating transcriptional dysregulation in diseases such as cancer, neurodegenerative diseases, and genetic disorders related to gene expression abnormalities.

Application Notes

Optimal dilution of the Zebrafish Polr2a antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Polr2a recombinant protein (amino acids A1145-H1381) was used as the immunogen for the Zebrafish Polr2a antibody.

Storage

After reconstitution, the Zebrafish Polr2a antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.