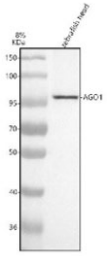
Zebrafish Argonaute 1 Antibody / Ago1 (RZ1175)

Catalog No.	Formulation	Size
RZ1175	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	K4I6K9
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Argonaute 1 antibody is available for research use only.



Western blot analysis of Argonaute 1 protein using Zebrafish Argonaute 1 antibody and zebrafish head tissue lysate. The predicted molecular weight of Argonaute 1 is ~97 kDa.

Description

Argonaute 1 (Ago1) is a core component of the RNA-induced silencing complex (RISC), playing a pivotal role in post-transcriptional gene regulation through small RNA pathways. In zebrafish, Ago1 is integral to microRNA (miRNA)-mediated gene silencing and participates in processes crucial for embryonic development, cellular differentiation, and gene expression regulation.

Biological Function:
Ago1 binds to small RNAs (miRNAs and siRNAs) and guides RISC to target messenger RNAs (mRNAs) for translational repression or degradation. In zebrafish, Ago1 is particularly important for miRNA function during early development,

where it helps regulate maternal mRNA clearance and zygotic gene activation. Functional studies have shown that loss of Ago1 impairs embryonic patterning, cell movement, and germ layer formation.

Structure and Domains:
Zebrafish Ago1 contains the characteristic PAZ and PIWI domains. The PAZ domain anchors the 3' end of small RNAs, while the PIWI domain has RNase H-like activity, enabling mRNA cleavage in certain contexts.

Expression Pattern:
Ago1 mRNA is maternally deposited and broadly expressed during early embryogenesis. Later, its expression is enriched in proliferative and neural tissues, reflecting its role in controlling gene expression during development and differentiation.

Orthology and Conservation:
Zebrafish Ago1 is highly conserved with its mammalian counterparts, including human AGO1. This conservation supports the use of zebrafish as a model for studying RNA interference (RNAi), small RNA pathways, and related genetic regulatory mechanisms.

Application Notes

Optimal dilution of the Zebrafish Argonaute 1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Argonaute 1 recombinant protein (amino acids E377-R410) was used as the immunogen for the Zebrafish Argonaute 1 antibody.

Storage

After reconstitution, the Zebrafish Argonaute 1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.