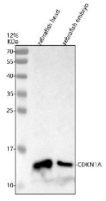
Zebrafish Cdkn1a Antibody / p21 / Waf1 / Cip1 (RZ1258)

Catalog No.	Formulation	Size
RZ1258	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	A0A8M1RFS1
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Cdkn1a antibody is available for research use only.



Western blot analysis of Cdkn1a protein using Zebrafish Cdkn1a antibody and 1) zebrafish head tissue lysates and 2) zebrafish embryo tissue lysate. Predicted molecular weight ~15 kDa.

Description

Cdkn1a, also known as cyclin dependent kinase inhibitor 1a, is a key regulatory protein that controls cell cycle progression by inhibiting cyclin dependent kinases. It plays an essential role in maintaining the balance between cell proliferation and cell cycle arrest, particularly in response to DNA damage and other cellular stress signals.

In zebrafish, Cdkn1a is expressed in various tissues during embryogenesis and in adult organs, especially in regions undergoing rapid cell division or experiencing genotoxic stress. Zebrafish Cdkn1a is a confirmed ortholog of the human CDKN1A gene, which encodes the protein commonly known as p21. Both zebrafish and human Cdkn1a proteins are structurally conserved and share similar mechanisms of action in regulating the cell cycle and promoting cellular

senescence or apoptosis.

Cdkn1a is a downstream effector of the tumor suppressor protein p53 and becomes upregulated following DNA damage or oxidative stress. It functions primarily by binding to and inhibiting cyclin E and cyclin A associated kinases, thereby enforcing a cell cycle arrest at the G one and S phase transition. In zebrafish, Cdkn1a is widely used as a biomarker for DNA damage response and is essential for proper embryonic development, tissue regeneration, and maintenance of genomic stability.

Due to its evolutionary conservation and central role in cell cycle control and stress response, zebrafish Cdkn1a is a valuable model for studying cancer biology, toxicology, aging, and regenerative medicine. It is often used in research investigating p53 signaling, chemical screening, and genetic regulation of cell cycle arrest.

Application Notes

Optimal dilution of the Zebrafish Cdkn1a antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Cdkn1a recombinant protein (amino acids M1-Q170) was used as the immunogen for the Zebrafish Cdkn1a antibody.

Storage

After reconstitution, the Zebrafish Cdkn1a antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.