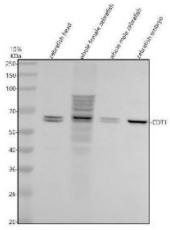
Zebrafish CDT1 Antibody / Cell Cycle Regulation Protein Antibody (RZ1424)

Catalog No.	Formulation	Size
RZ1424	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 mL distilled water to yield a final antibody concentration of 500 ug/mL.
UniProt	A0A8M6YZJ1
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish CDT1 Antibody / Cell Cycle Regulation Protein Antibody is available for research use only.



Zebrafish CDT1 Antibody WB. Western blot analysis of CDT1 using anti-CDT1 antibody demonstrates a distinct immunoreactive band at approximately 60 kDa in zebrafish head, whole female zebrafish, whole male zebrafish, and zebrafish embryo lysates, consistent with the expected molecular weight of Chromatin Licensing and DNA Replication Factor 1 (CDT1). CDT1 is a cell cycle regulation protein that functions in DNA replication licensing by promoting assembly of the pre-replication complex and ensuring accurate genome duplication during cellular proliferation. The observed expression across adult and embryonic zebrafish tissues is consistent with the essential role of CDT1 in cell cycle progression, developmental growth, and maintenance of genomic stability. Western blot was performed using 0.5 ug/ml primary antibody. Predicted molecular weight: ~60 kDa.

Description

Zebrafish CDT1 Antibody / Cell Cycle Regulation Protein Antibody is designed for the detection and study of CDT1 (Chromatin Licensing and DNA Replication Factor 1), a critical regulator of DNA replication and cell cycle progression. CDT1 functions during the G1 phase of the cell cycle to license replication origins before DNA synthesis begins, ensuring that genomic DNA is accurately duplicated once during each cell division cycle. Because proper control of DNA replication is essential for normal growth and development, CDT1 plays a central role in cellular proliferation, tissue

formation, and embryogenesis in zebrafish.

As a cell cycle regulation protein, CDT1 participates in assembly of the pre-replication complex by promoting loading of the MCM helicase complex onto chromatin. This licensing process establishes replication competence before entry into S phase and helps prevent inappropriate re-replication of genomic DNA. Tight regulation of CDT1 activity is therefore required to maintain genome integrity, support normal cell cycle progression, and ensure faithful transmission of genetic information during cellular division.

Zebrafish are widely used to investigate developmental biology, regenerative processes, and mechanisms controlling cellular proliferation. CDT1 expression is closely associated with actively dividing cell populations and is frequently studied during embryonic development, organogenesis, and tissue regeneration. Research involving zebrafish CDT1 has helped clarify how DNA replication licensing coordinates with developmental signaling pathways to support vertebrate growth and differentiation.

Disruption of CDT1 function can result in replication stress, abnormal cell cycle progression, genomic instability, and developmental defects. Consequently, CDT1 remains an important target for studies involving chromosome maintenance, DNA damage responses, cancer biology, and regulation of cellular proliferation. The highly conserved nature of cell cycle control pathways further enhances the value of zebrafish models for investigating biologic mechanisms relevant to human health and disease.

Zebrafish CDT1 Antibody is useful for investigating cell cycle regulation, DNA replication licensing, genome maintenance, and developmental biology pathways. Researchers utilize CDT1 expression studies to better understand molecular mechanisms governing cellular proliferation, tissue development, and maintenance of genomic stability during vertebrate growth and differentiation.

Learn more about CDT1 and related DNA replication control pathways on our CDT1 Antibody / DNA Replication Licensing Factor Antibody page.

This Zebrafish antibody is part of a broader Zebrafish / Danio rerio antibody panel offered by NSJ Bioreagents.

Application Notes

The optimal working dilution of the Zebrafish CDT1 Antibody / Cell Cycle Regulation Protein Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish Chromatin Licensing and DNA Replication Factor 1 recombinant protein (amino acids E64-E447) was used as the immunogen for the Zebrafish CDT1 Antibody.

Storage

After reconstitution, the Zebrafish CDT1 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Zebrafish CDT1 Antibody, Zebrafish Chromatin Licensing and DNA Replication Factor 1 Antibody, Zebrafish Cell Cycle Regulation Protein Antibody, Zebrafish DNA Replication Licensing Protein Antibody, Zebrafish Replication Licensing Factor Antibody, Zebrafish DNA Replication Initiation Factor Antibody, Zebrafish Genome Stability Protein Antibody