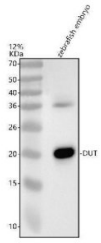
Zebrafish DUT Antibody / dUTP Pyrophosphatase Antibody (RZ1425)

Catalog No.	Formulation	Size
RZ1425	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	A0A8M9P120
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish DUT Antibody / dUTP Pyrophosphatase Antibody is available for research use only.



Zebrafish DUT Antibody WB. Western blot analysis of DUT using anti-DUT antibody demonstrates a distinct immunoreactive band at approximately 20 kDa in zebrafish embryo lysate, consistent with the expected molecular weight of dUTP Pyrophosphatase (DUT). DUT is a nucleotide metabolism enzyme that hydrolyzes dUTP to dUMP, thereby preventing inappropriate uracil incorporation into DNA and supporting maintenance of genomic integrity during DNA replication. The observed expression in zebrafish embryo tissue is consistent with the essential role of DUT in nucleotide pool regulation, genome maintenance, and normal vertebrate development. Western blot was performed using 0.5 ug/ml primary antibody. Predicted molecular weight: ~20 kDa.

Description

Zebrafish DUT Antibody / dUTP Pyrophosphatase Antibody is designed for the detection and study of DUT (dUTP Pyrophosphatase), an essential enzyme that regulates intracellular nucleotide pools and protects genomic DNA from inappropriate uracil incorporation. DUT catalyzes the hydrolysis of dUTP to dUMP and pyrophosphate, thereby reducing cellular dUTP concentrations while simultaneously generating substrate for thymidine nucleotide biosynthesis. Through this activity, DUT plays a critical role in maintaining DNA integrity and supporting accurate DNA replication.

As a dUTP pyrophosphatase, DUT functions as an important safeguard against genomic instability. Elevated intracellular

dUTP levels can result in incorporation of uracil into DNA, leading to increased DNA repair activity, strand breaks, and compromised genome maintenance. By controlling nucleotide pool balance, DUT helps preserve replication fidelity and supports normal cellular proliferation. This function is particularly important in rapidly dividing cell populations where DNA synthesis demands are high.

Zebrafish provide a valuable vertebrate model for studying DNA replication, developmental biology, and genome maintenance pathways. DUT expression is frequently associated with proliferating tissues and developing embryos, where precise regulation of nucleotide metabolism is required for normal growth and differentiation. Studies of zebrafish DUT have contributed to understanding how nucleotide homeostasis influences embryogenesis, cellular survival, and maintenance of genomic stability during development.

Beyond developmental biology, DUT is widely studied in the context of DNA repair, cancer biology, replication stress, and therapeutic responses to nucleotide metabolism-targeting agents. Because disruption of nucleotide balance can have profound effects on genome integrity, DUT remains an important target for investigations of DNA synthesis pathways and mechanisms that protect cells from replication-associated damage.

Zebrafish DUT Antibody is useful for investigating nucleotide metabolism, DNA integrity pathways, genome maintenance mechanisms, and developmental biology processes. Researchers utilize DUT expression studies to better understand how nucleotide pool regulation contributes to DNA replication fidelity, cellular proliferation, and maintenance of genomic stability during vertebrate development.

For additional information on DUT function, nucleotide metabolism, and genome maintenance pathways, visit our DUT Antibody / Genome Integrity Enzyme 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 DUT Antibody / dUTP Pyrophosphatase Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish DUT recombinant protein (amino acids K31-R157) was used as the immunogen for the Zebrafish DUT Antibody.

Storage

After reconstitution, the Zebrafish DUT 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 DUT Antibody, Zebrafish dUTP Pyrophosphatase Antibody, Zebrafish Deoxyuridine Triphosphatase Antibody, Zebrafish Nucleotide Metabolism Enzyme Antibody, Zebrafish DNA Integrity Enzyme Antibody, Zebrafish Uracil Prevention Enzyme Antibody, Zebrafish Genome Maintenance Enzyme Antibody