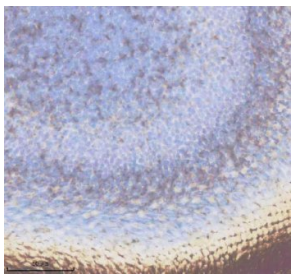
Zebrafish DPYD Antibody / Dihydropyrimidine Dehydrogenase Antibody (RZ1454)

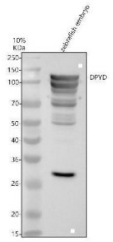
Catalog No.	Formulation	Size
RZ1454	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	Q6NYG8
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Zebrafish DPYD Antibody / Dihydropyrimidine Dehydrogenase Antibody is available for research use only.



Zebrafish DPYD Antibody Eye IHC. Immunohistochemical analysis of DPYD expression using anti-DPYD antibody in paraffin embedded zebrafish eye tissue. DPYD, also known as Dihydropyrimidine Dehydrogenase, is the rate limiting enzyme of pyrimidine catabolism and plays a critical role in nucleotide homeostasis and fluoropyrimidine metabolism. Diffuse cytoplasmic staining is observed throughout retinal layers and surrounding ocular tissues, consistent with the metabolic demands associated with visual system development and maintenance. Heat mediated antigen retrieval was performed in EDTA buffer prior to staining. Sections were blocked with 10 percent goat serum and incubated with DPYD antibody at 2 ug/ml overnight at 4 degrees Celsius. Detection was achieved using a peroxidase conjugated goat anti rabbit IgG secondary antibody and DAB chromogen. These results support the utility of Zebrafish DPYD Antibody for studies of pyrimidine metabolism, ocular development, and cellular homeostasis.



Zebrafish DPYD Antibody WB. Western blot analysis of DPYD using anti-DPYD antibody. Electrophoresis was performed on a 10% SDS-PAGE gel for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 4: zebrafish embryo tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-DPYD antigen antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus WB. Western blotting Substrate with Tanon 5200 system. A specific band was detected for DPYD at approximately 111 kDa. The expected band size for DPYD is at 111 kDa.

Description

Zebrafish DPYD Antibody / Dihydropyrimidine Dehydrogenase Antibody recognizes DPYD, the rate limiting enzyme in pyrimidine catabolism responsible for the reduction of uracil and thymine to their respective dihydro forms. Also known as DPD, this NADPH dependent oxidoreductase initiates the degradation pathway for pyrimidine bases and plays a critical role in maintaining nucleotide homeostasis. In addition to its physiological function in pyrimidine turnover, DPYD is responsible for the metabolism of fluoropyrimidine drugs such as 5 fluorouracil, making it one of the most clinically important enzymes involved in drug metabolism and toxicity.

In zebrafish, DPYD contributes to nucleotide metabolism and cellular homeostasis during development and tissue maintenance. Pyrimidine degradation pathways are highly conserved among vertebrates, making zebrafish a valuable model for studying metabolic regulation and enzyme function. Proper control of nucleotide pools is essential for DNA synthesis, cell proliferation, and energy metabolism, and disturbances in pyrimidine catabolism can affect normal growth and development.

Deficiency of DPYD in humans is associated with neurological abnormalities, developmental delays, and severe toxicity following treatment with fluoropyrimidine based chemotherapeutics. Altered DPYD expression has also been linked to cancer progression and treatment responses. Because DPD activity determines the metabolism of 5 fluorouracil and related drugs, the enzyme has emerged as an important biomarker in oncology and pharmacogenomics. Investigation of DPYD function has therefore become increasingly important in studies of drug metabolism and personalized medicine.

Beyond its role in pyrimidine degradation, DPYD influences cellular metabolism and nucleotide availability required for DNA replication and repair. Interactions between metabolic pathways and nucleotide homeostasis affect proliferation, differentiation, and responses to stress. Consequently, DPYD serves as an important target for investigations of metabolic regulation, developmental biology, and disease mechanisms.

Zebrafish DPYD Antibody / Dihydropyrimidine Dehydrogenase Antibody is useful for studies of pyrimidine metabolism, developmental biology, pharmacology, and cellular homeostasis. The conservation of nucleotide degradation pathways makes zebrafish an effective model for understanding mechanisms involved in metabolism, drug responses, and disease.

Visit our DPYD Antibody page to discover additional antibodies against this Pyrimidine Metabolism Enzyme, including reagents for studies of nucleotide catabolism, fluoropyrimidine metabolism, and cancer biology.

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 DPYD Antibody / Dihydropyrimidine Dehydrogenase Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish DPYD recombinant protein (amino acids K35-N954) was used as the immunogen for the Zebrafish DPYD Antibody.

Storage

After reconstitution, the Zebrafish DPYD 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 DPD Antibody, Zebrafish Pyrimidine Catabolism Enzyme Antibody, Zebrafish Uracil Degradation Enzyme Antibody, Zebrafish Fluoropyrimidine Metabolism Protein Antibody, Zebrafish Pyrimidine Reductase Antibody, Zebrafish Dihydrouracil Dehydrogenase Antibody

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