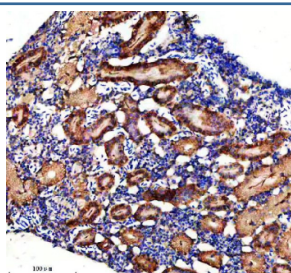


Zebrafish Dlst Antibody / Dihydrolipoamide S-Succinyltransferase (RZ1150)

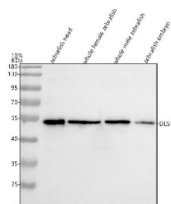
Catalog No.	Formulation	Size
RZ1150	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

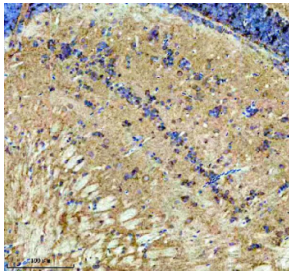
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q7ZVL3
Applications	Western Blot : 0.5-1 ug/ml Immunohistochemistry (FFPE) : 2-5 ug/ml
Limitations	This Zebrafish Dlst antibody is available for research use only.



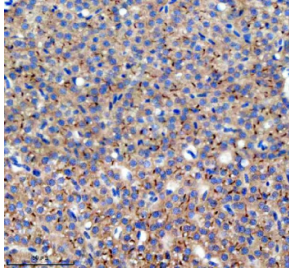
Zebrafish Dlst Antibody Kidney Tissue IHC. Immunohistochemistry staining of FFPE zebrafish kidney tissue with Zebrafish Dlst antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



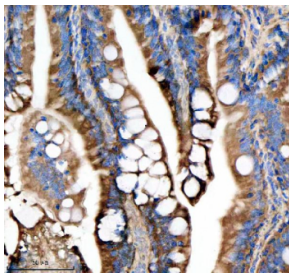
Zebrafish Dlst Antibody Tissue WB. Western blot analysis of Dlst protein using Zebrafish Dlst antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~49 kDa.



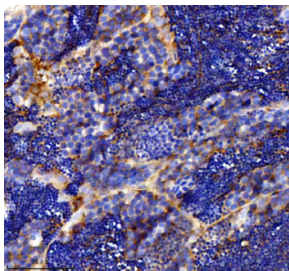
Zebrafish Dlst Antibody Brain Tissue IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Zebrafish Dlst antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Dlst Antibody Liver Tissue IHC. Immunohistochemistry staining of FFPE zebrafish liver tissue with Zebrafish Dlst antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Dlst Antibody Colon Tissue IHC. Immunohistochemistry staining of FFPE zebrafish colon tissue with Zebrafish Dlst antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Dlst Antibody Testis Tissue IHC. Immunohistochemistry staining of FFPE zebrafish testis tissue with Zebrafish Dlst antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (*Danio rerio*) Dlst antibody detects Dlst, a mitochondrial enzyme that functions as the E2 core component of the alpha-ketoglutarate dehydrogenase complex (KGDHC). Encoded in zebrafish by *dlst*, Dihydrolipoamide S-Succinyltransferase catalyzes the transfer of a succinyl group from lipoamide to CoA, generating succinyl-CoA as part of the tricarboxylic acid (TCA) cycle. This reaction is essential for mitochondrial energy metabolism, redox balance, and biosynthetic pathways that support embryonic growth. Because TCA cycle function underpins ATP production during development, Zebrafish Dlst antibody reagents support research in metabolic physiology, mitochondrial biology, and developmental biochemistry.

Dlst acts at the center of the KGDHC, a multi-enzyme complex composed of E1 (alpha-ketoglutarate dehydrogenase), E2 (Dlst), and E3 (Dld). The E2 enzyme forms the structural scaffold of the complex and houses the lipoate arm that transfers intermediates between catalytic sites. In zebrafish embryos, *dlst* is strongly expressed in metabolically active tissues such as the developing brain, musculature, heart, and liver. These tissues rely heavily on oxidative phosphorylation to meet the high energy demands of proliferation, differentiation, and morphogenesis.

As part of the TCA cycle, Dlst influences the production of NADH that fuels the electron transport chain. Efficient electron flow is essential for ATP synthesis and maintenance of cellular redox states. Impaired Dlst function can reduce

mitochondrial respiration, elevate oxidative stress, and disrupt biosynthetic pathways that require TCA cycle intermediates. In zebrafish, disruptions in Dlst expression or activity can affect organ development, neuronal differentiation, muscular integrity, and energy balance during early growth stages.

Dlst also participates in anaplerotic regulation. By controlling flux through the alpha-ketoglutarate node, Dlst indirectly supports the replenishment of TCA intermediates used for amino acid synthesis, lipid metabolism, and nucleotide production. These biosynthetic roles are critical in zebrafish embryos, where rapid cell division requires constant generation of macromolecular building blocks. Any perturbation in Dlst function can therefore influence developmental timing and metabolic adaptation.

At the biochemical level, Dihydrolipoamide S-Succinyltransferase contains multiple functional domains, including an amino-terminal lipoyl-binding region, an E1-binding region, and the catalytic core required for succinyl-transfer reactions. Its quaternary structure enables assembly into a cubic or dodecahedral core that organizes the entire KGDHC. Subcellular localization of Dlst is strictly mitochondrial, where it colocalizes with other TCA cycle enzymes and participates in large, dynamic metabolic networks that respond to nutrient availability and stress.

Mitochondrial metabolism plays a key role in vertebrate developmental signaling. Metabolites such as alpha-ketoglutarate influence epigenetic regulation, while succinyl-CoA contributes to heme biosynthesis and protein succinylation. Through its catalytic activities, Dlst helps integrate metabolic flux with developmental pathways that control cell fate decisions, tissue growth, and organ patterning. Zebrafish models provide valuable opportunities to visualize how metabolic enzymes such as Dlst shape physiological outcomes in vivo.

A Zebrafish Dlst antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining mitochondrial function, TCA cycle activity, and developmental metabolism. This antibody targets Dlst for studies involving energy production, redox balance, and metabolic regulation during vertebrate development. NSJ Bioreagents provides the Zebrafish Dlst antibody to support research in mitochondrial biochemistry and developmental physiology.

This Zebrafish antibody is part of a [broader Zebrafish / Danio rerio antibody panel](#) offered by NSJ Bioreagents.

Application Notes

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

Immunogen

An E.coli-derived zebrafish Dlst recombinant protein (amino acids D86-M458) was used as the immunogen for the Zebrafish Dlst antibody.

Storage

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

