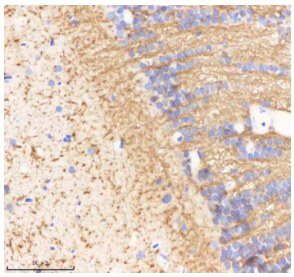
Zebrafish Ornithine aminotransferase Antibody / Oat (RZ1255)

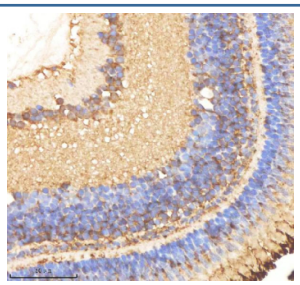
Catalog No.	Formulation	Size
RZ1255	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

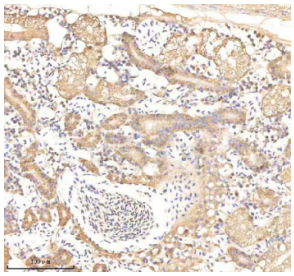
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	F8W5L3
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Zebrafish Ornithine aminotransferase antibody is available for research use only.



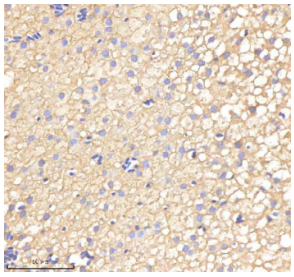
Zebrafish Ornithine aminotransferase / Oat Antibody Brain Tissue IHC. Immunohistochemistry staining of zebrafish Ornithine aminotransferase protein using Zebrafish Ornithine aminotransferase antibody, HRP-labeled secondary and DAB substrate. Ornithine aminotransferase was detected in a paraffin-embedded section of zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



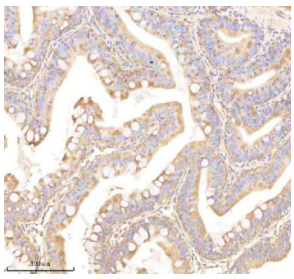
Zebrafish Ornithine aminotransferase / Oat Antibody Eye Tissue IHC. Immunohistochemistry staining of zebrafish Ornithine aminotransferase protein using Zebrafish Ornithine aminotransferase antibody, HRP-labeled secondary and DAB substrate. Ornithine aminotransferase was detected in a paraffin-embedded section of zebrafish eye tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



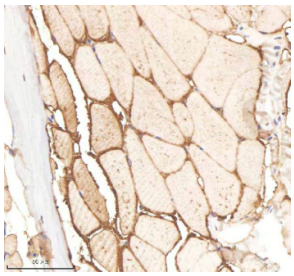
Zebrafish Ornithine aminotransferase / Oat Antibody Kidney Tissue IHC. Immunohistochemistry staining of zebrafish Ornithine aminotransferase protein using Zebrafish Ornithine aminotransferase antibody, HRP-labeled secondary and DAB substrate. Ornithine aminotransferase was detected in a paraffin-embedded section of zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Ornithine aminotransferase / Oat Antibody Liver Tissue IHC. Immunohistochemistry staining of zebrafish Ornithine aminotransferase protein using Zebrafish Ornithine aminotransferase antibody, HRP-labeled secondary and DAB substrate. Ornithine aminotransferase was detected in a paraffin-embedded section of zebrafish liver tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Ornithine aminotransferase / Oat Antibody Colon Tissue IHC. Immunohistochemistry staining of zebrafish Ornithine aminotransferase protein using Zebrafish Ornithine aminotransferase antibody, HRP-labeled secondary and DAB substrate. Ornithine aminotransferase was detected in a paraffin-embedded section of zebrafish colon tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Ornithine aminotransferase / Oat Antibody Muscle Tissue IHC. Immunohistochemistry staining of zebrafish Ornithine aminotransferase protein using Zebrafish Ornithine aminotransferase antibody, HRP-labeled secondary and DAB substrate. Ornithine aminotransferase was detected in a paraffin-embedded section of zebrafish muscle tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

The Zebrafish Ornithine aminotransferase antibody targets Oat, a mitochondrial enzyme essential for amino acid metabolism, nitrogen balance, and retinal and hepatic function in Danio rerio. Zebrafish, also known as Danio rerio, express oat broadly during development, with strong enrichment in the liver, skeletal muscle, brain, and retina, reflecting its central role in metabolic homeostasis. Oat localizes to the mitochondrial matrix, where it catalyzes the reversible conversion of ornithine and alpha-ketoglutarate into glutamate semialdehyde and glutamate. This reaction supports the urea cycle, proline and polyamine synthesis, and metabolic pathways that manage nitrogen and carbon flow in developing tissues.

Oat belongs to the class I aminotransferase family, a group of pyridoxal phosphate-dependent enzymes involved in amino acid interconversion and mitochondrial metabolic regulation. In zebrafish embryos, oat expression increases as metabolic demands rise during organogenesis, particularly in tissues requiring active nitrogen recycling and mitochondrial energy production. A Zebrafish Ornithine aminotransferase antibody is suitable for detecting mitochondrial and cytoplasmic signals in metabolically active cells, aiding studies of nutrient metabolism, liver maturation, and retinal development.

Functionally, Oat plays major roles in maintaining nitrogen equilibrium and supporting metabolic networks that rely on

glutamate and proline. In zebrafish, Oat-driven pathways sustain hepatic detoxification, mitochondrial redox balance, and amino acid interconversion. Oat is also essential for retinal health, as ornithine accumulation or impaired Oat function can disrupt photoreceptor metabolism and lead to retinal degeneration in vertebrates. During early development, Oat contributes to muscle differentiation, neurochemical balance, and metabolic adaptation as embryos transition from yolk-derived nutrients to external feeding. Because zebrafish are widely used to model metabolic disorders, Oat expression is a valuable indicator of mitochondrial activity and amino acid metabolism.

Structurally, zebrafish Oat contains conserved catalytic residues and a pyridoxal phosphate-binding domain typical of aminotransferases, enabling efficient amino group transfer. The protein is encoded by the oat gene on chromosome 23, with regulatory elements responsive to nutritional state, mitochondrial stress, and developmental cues. Co-localization studies frequently detect Oat within mitochondrial networks of hepatocytes, retinal cells, skeletal muscle fibers, and neurons, overlapping with markers of oxidative metabolism and nitrogen-processing enzymes.

A Zebrafish Ornithine aminotransferase antibody is suitable for detecting Oat in studies focused on amino acid metabolism, liver function, retinal development, mitochondrial biology, and nitrogen handling in Danio rerio. Its mitochondrial localization provides insight into metabolic bottlenecks, nutrient-dependent developmental shifts, and genetic disruptions affecting amino acid homeostasis. Oat expression is also used to examine metabolic disease models, retinal degeneration pathways, and physiological responses to altered nutrient availability or metabolic stress. These features make the antibody a valuable tool for research in developmental metabolism, mitochondrial function, and vertebrate biochemical regulation, and it is supplied for research use by NSJ Bioreagents.

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

Application Notes

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

Immunogen

E. coli-derived zebrafish Ornithine aminotransferase recombinant protein (amino acids A223-F444) was used as the immunogen for the Zebrafish Ornithine aminotransferase antibody.

Storage

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

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