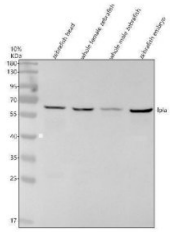
Zebrafish LPL Antibody / Lipoprotein Lipase Antibody (RZ1381)

Catalog No.	Formulation	Size
RZ1381	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	Q6P2U2
Applications	Western blot: 0.5-1ug/ml
Limitations	This Zebrafish LPL Antibody / Lipoprotein Lipase Antibody is available for research use only.



Zebrafish LPL Antibody Embryo and Adult Tissue WB. Western blot analysis of zebrafish head tissue lysate (lane 1), whole female zebrafish tissue lysate (lane 2), whole male zebrafish tissue lysate (lane 3), and zebrafish embryo tissue lysate (lane 4) using Zebrafish LPL Antibody / Lipoprotein Lipase Antibody demonstrates distinct bands at approximately 60 kDa, consistent with the expected molecular weight of Lipoprotein Lipase (LPLA/LPL). Lipoprotein Lipase is a key enzyme involved in triglyceride hydrolysis, fatty acid mobilization, and lipid utilization. By releasing free fatty acids from circulating lipoproteins, LPL supports energy production, tissue growth, and metabolic homeostasis. Detection of LPL in both embryonic and adult zebrafish tissues is consistent with its essential role in lipid metabolism and nutrient utilization throughout development and normal physiologic function. Electrophoresis was performed using a 10% SDS-PAGE gel under reducing conditions with 30 Âµg of protein loaded per lane. Signal was visualized using HRP-conjugated secondary antibody and ECL detection.

Description

Zebrafish LPL Antibody / Lipoprotein Lipase Antibody is useful for studying Lipoprotein Lipase (LPL), a key enzyme involved in lipid metabolism and energy homeostasis. In zebrafish, Lipoprotein Lipase is encoded by the LPLA gene and functions in the hydrolysis of triglycerides contained within circulating lipoproteins, releasing free fatty acids that can be taken up and utilized by tissues for energy production, membrane synthesis, and lipid storage. Through this activity, LPL

serves as a central regulator of lipid utilization and nutrient distribution throughout the organism.

Lipoprotein Lipase is essential for maintaining normal lipid balance because it controls the availability of fatty acids derived from triglyceride-rich lipoproteins. By regulating lipid uptake and utilization, LPL influences cellular metabolism, energy production, tissue growth, and developmental processes. The enzyme is particularly important in metabolically active tissues that depend on a continuous supply of fatty acids to support physiologic function and cellular homeostasis.

In zebrafish, LPL contributes to pathways involved in embryonic growth, tissue maturation, nutrient utilization, and lipid transport. Because zebrafish embryos develop externally and are highly amenable to genetic manipulation and imaging, they have become valuable models for investigating lipid metabolism and energy regulation during vertebrate development. Analysis of LPL expression can provide insight into mechanisms that govern lipid handling, metabolic adaptation, and nutrient-responsive signaling pathways.

Beyond its role in triglyceride hydrolysis, LPL participates in broader metabolic networks that influence energy balance, lipid storage, and fatty acid utilization. Proper regulation of lipid metabolism is required for normal development, tissue maintenance, and physiologic adaptation. Consequently, Lipoprotein Lipase is frequently studied in developmental biology, cardiovascular research, metabolic regulation, obesity-associated pathways, and investigations of lipid-related disease mechanisms.

Zebrafish has emerged as a powerful model for examining genes involved in lipid metabolism because many pathways regulating lipoprotein processing and fatty acid utilization are highly conserved among vertebrates. LPL expression is therefore commonly evaluated in studies of cardiovascular physiology, metabolic homeostasis, nutrient transport, developmental biology, and lipid-associated signaling networks. These characteristics make Lipoprotein Lipase an important target for understanding how organisms regulate energy availability and lipid utilization.

Zebrafish LPL antibodies are commonly used in immunohistochemistry, immunofluorescence, western blotting, and related protein detection applications to evaluate Lipoprotein Lipase expression and localization. These reagents support investigations of lipid metabolism, triglyceride processing, fatty acid utilization, developmental biology, cardiovascular physiology, and metabolic regulation in zebrafish research models.

Learn more about Lipoprotein Lipase function in lipid metabolism, triglyceride hydrolysis, fatty acid utilization, and metabolic regulation on our LPL 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 LPL Antibody / Lipoprotein Lipase Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish LPLA recombinant protein (amino acids D52-E511) was used as the immunogen for the Zebrafish LPL / LPLA Antibody.

Storage

After reconstitution, the Zebrafish LPL / LPLA 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 Lipoprotein Lipase Antibody, Zebrafish LPLA Antibody, Zebrafish Triglyceride Lipase Antibody, Zebrafish Lipid Metabolism Enzyme Antibody, Zebrafish Fatty Acid Mobilization Protein Antibody, Zebrafish Lipid Uptake Regulator Antibody

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