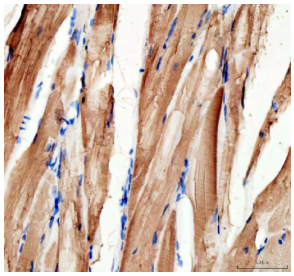
Zebrafish Mylz2 Antibody / Fast skeletal myosin light chain 2 / Mylpfa/b (RZ1326)

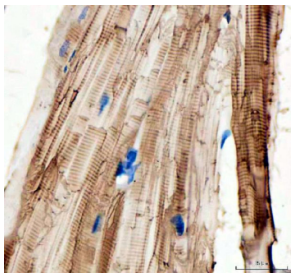
Catalog No.	Formulation	Size
RZ1326	0.5mg/ml in PBS with 50% glycerol, 0.9% NaCl, 0.2% Na2HPO4, 0.02% NaN3.	200 ul

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
UniProt	O93409, Q66I73
Localization	Cytoplasm
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Mylz2 antibody is available for research use only.



IHC staining of FFPE zebrafish skeletal muscle tissue with Mylz2 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



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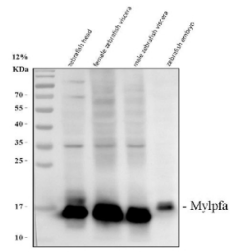

Western blot analysis of Mylz2/Mylpfa protein using Zebrafish Mylz2 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~19 kDa.

Description

Zebrafish Mylz2 antibody targets Fast skeletal myosin light chain 2 (Mylz2), also known as Mylpfa and Mylpfb, a contractile regulatory protein that is a key component of the fast skeletal muscle myosin complex. In zebrafish, also known as Danio rerio, Mylz2 associates with myosin heavy chains in fast-twitch muscle fibers, where it modulates actin-myosin interactions and contributes to force generation and contraction kinetics. Mylz2 localizes predominantly to the cytoplasm within sarcomeric structures of skeletal muscle cells, reflecting its structural and functional role in the contractile apparatus.

Functionally, Mylz2 plays an important role in regulating muscle contraction by stabilizing the myosin head and influencing cross-bridge cycling during contraction. In zebrafish, fast skeletal muscle fibers are essential for rapid and powerful movements such as escape responses and swimming bursts. Mylz2 expression is strongly enriched in fast muscle fibers during embryonic development and remains highly expressed in larval and adult skeletal muscle. This restricted expression pattern makes Mylz2 a widely used marker for fast-twitch muscle differentiation and muscle fiber identity in zebrafish studies. A Zebrafish Mylz2 antibody supports investigations into muscle development and contractile protein organization in Danio rerio.

Zebrafish is a well-established model for studying muscle biology due to its transparent embryos and conserved myofibrillar architecture. Altered expression or disruption of Mylz2 in zebrafish has been associated with defects in sarcomere assembly, reduced muscle contractility, and impaired locomotor behavior. These findings highlight the importance of proper myosin light chain composition for normal muscle function and development. A Zebrafish Mylz2 antibody enables analysis of fast muscle fiber formation and maturation during developmental and experimental studies.

From a biological and disease-relevance perspective, myosin light chain proteins are studied in vertebrates for their roles in muscle performance, myopathies, and muscle adaptation. While zebrafish-specific paralogs such as mylpfa and mylpfb arose from genome duplication events, they retain conserved functions related to fast skeletal muscle contraction. Zebrafish Mylz2 therefore provides a valuable comparative system for examining conserved mechanisms of muscle differentiation and contractile regulation.

At the molecular level, zebrafish Mylz2 is encoded by the mylz2 gene and produces a protein of approximately 170 amino acids, consistent with fast skeletal myosin light chains in other vertebrates. The protein contains EF-hand-like domains involved in binding to myosin and contributing to structural stability of the motor complex. Regulation of Mylz2 expression is tightly linked to myogenic differentiation programs and muscle fiber type specification. A Zebrafish Mylz2 antibody supports research applications focused on skeletal muscle development, contractile protein assembly, and muscle fiber characterization in zebrafish, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the Zebrafish Mylz2 antibody should be determined by the researcher.

Immunogen

The immunogen used for this Mylz2 antibody (Mylpfa) is 100% homologous with Mylpfb.

Storage

Store the Zebrafish Mylz2 antibody at -20oC.