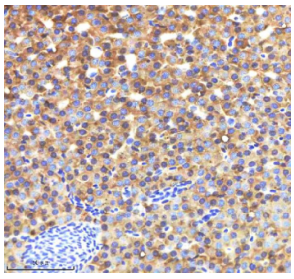
Zebrafish Lysozyme Antibody / Lyz (RZ1236)

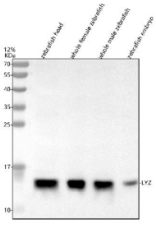
Catalog No.	Formulation	Size
RZ1236	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

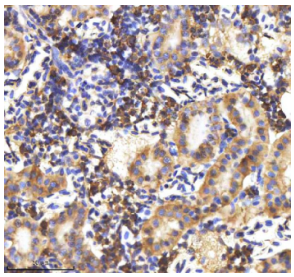
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q90YS5
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Lysozyme antibody is available for research use only.



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



Western blot analysis of Lysozyme protein using Zebrafish Lysozyme antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~17 kDa.



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

Description

The Zebrafish Lysozyme antibody targets Lyz, a key innate immune enzyme essential for antibacterial defense, phagocyte function, and early host-protection mechanisms in Danio rerio. Zebrafish, also known as Danio rerio, express lyz as one of the most abundant antimicrobial effector genes in macrophages and neutrophils. Lysozyme is a secreted or granule-stored enzyme that hydrolyzes peptidoglycan bonds in bacterial cell walls, contributing to bacterial lysis and shaping innate immune responses during infection, inflammation, and tissue injury. In developing zebrafish, Lyz expression highlights myeloid lineage emergence and provides a sensitive readout of innate immune maturation.

Lyz belongs to the c-type lysozyme family, a conserved group of small enzymatic proteins involved in first-line host defense. In zebrafish embryos, lyz expression initiates early in primitive myeloid progenitors located in the rostral blood island and later expands to definitive myeloid cells in the kidney marrow analog. A Zebrafish Lysozyme antibody is suitable for research applications examining cytoplasmic and granule-associated expression in macrophages, neutrophils, and other innate immune cells during development or immune challenge.

Functionally, Lyz contributes to multiple innate immune processes beyond direct bacterial killing. It modulates inflammatory signaling, shapes microbiome interactions, and participates in phagosomal maturation within macrophages. In zebrafish larvae, lyz-expressing neutrophils are rapidly recruited to sites of infection or wounding, where they release lysozyme-rich granules as part of the antimicrobial response. Lyz expression is frequently used as a hallmark marker for tracking neutrophil behavior, monitoring immune activation, and studying inflammatory disease models. Because zebrafish are transparent during early development, Lyz provides a powerful marker for real-time visualization of innate immunity.

Structurally, zebrafish Lyz contains the canonical catalytic residues and alpha-helical domains characteristic of c-type lysozymes. These features enable hydrolysis of bacterial peptidoglycan and support interactions within phagosomes and inflammatory microenvironments. Zebrafish lyz maps to chromosome 12, with regulatory elements activated by inflammatory stimuli and transcription factors such as pu.1/spi1b that specify myeloid lineage identity. Co-localization studies often detect Lyz alongside macrophage and neutrophil markers such as mpx, mpeg1.1, and lcp1, reflecting its core role in innate immune cell function.

A Zebrafish Lysozyme antibody is suitable for detecting Lyz in studies of innate immunity, inflammation, host-pathogen interactions, and myeloid lineage development in Danio rerio. Its strong association with neutrophils and macrophages allows researchers to map immune cell distribution, characterize inflammatory responses, and evaluate genetic or environmental factors affecting myelopoiesis. Lyz expression is also valuable in toxicology and infection models, where it provides insight into immune competence and antimicrobial defense. These features make the antibody a key tool for research in vertebrate immunology, developmental myeloid biology, and inflammation signaling, and it is supplied for research use by NSJ Bioreagents.

Application Notes

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

Immunogen

E. coli-derived zebrafish Lysozyme recombinant protein (amino acids K19-A151) was used as the immunogen for the

Zebrafish Lysozyme antibody.

Storage

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