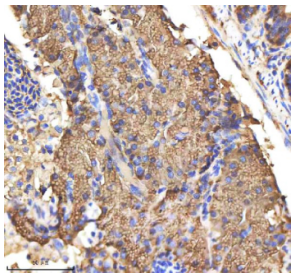
Zebrafish Csf1r Antibody / M-csfr (RZ1237)

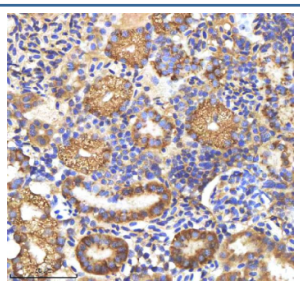
Catalog No.	Formulation	Size
RZ1237	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

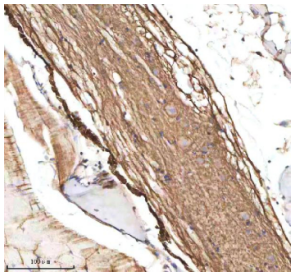
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9I8N6
Localization	Cell membrane
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Csf1r antibody is available for research use only.



Zebrafish Csf1r Antibody Pancreas Tissue IHC. Immunohistochemistry staining of zebrafish Csf1r protein using Zebrafish Csf1r antibody, HRP-labeled secondary and DAB substrate. M-Csf1r was detected in a paraffin-embedded section of zebrafish pancreas tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Csf1r Antibody Kidney Tissue IHC. Immunohistochemistry staining of zebrafish Csf1r protein using Zebrafish Csf1r antibody, HRP-labeled secondary and DAB substrate. Csf1r 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 Csf1r Antibody Spinal Cord Tissue IHC. Immunohistochemistry staining of zebrafish Csf1r protein using Zebrafish Csf1r antibody, HRP-labeled secondary and DAB substrate. Csf1r was detected in a paraffin-embedded section of zebrafish spinal cord tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

The Zebrafish Csf1r antibody targets Csf1r, the colony-stimulating factor 1 receptor, a receptor tyrosine kinase essential for macrophage development, microglial formation, and innate immune homeostasis in Danio rerio. Zebrafish, also known as Danio rerio, express csf1r (also called m-csfr) in macrophage and monocyte lineages beginning early in embryogenesis. Csf1r localizes to the plasma membrane, where it binds its ligands Csf1 and Il34 to activate downstream signaling cascades that regulate proliferation, differentiation, migration, and survival of macrophage-lineage cells. Its expression marks the emergence and expansion of myeloid immune populations throughout zebrafish development.

Csf1r belongs to the class III receptor tyrosine kinase family, a group that includes Kit, Pdgfr, and Flt3 receptors involved in hematopoietic and mesenchymal lineage regulation. In zebrafish embryos, csf1r is expressed in early myeloid progenitors within the rostral blood island and later in definitive myeloid cells emerging from the aorta-gonad-mesonephros region and kidney marrow analog. A Zebrafish Csf1r antibody is suitable for research applications examining membrane-associated receptor expression in macrophages, microglia, and monocyte-derived populations across embryonic and larval stages.

Csf1r is indispensable for the development of tissue-resident macrophages, including microglia in the brain. In zebrafish, csf1r signaling influences migration of primitive macrophages into the head region, enabling formation of early microglial populations that support neural development, synaptic refinement, and phagocytic clearance. In peripheral tissues, Csf1r regulates macrophage proliferation, inflammatory activation, and participation in wound healing. Disruption of csf1r function leads to depletion of macrophages and microglia, immune dysregulation, impaired debris clearance, and defective tissue remodeling.

Structurally, zebrafish Csf1r contains extracellular immunoglobulin-like domains responsible for ligand binding, a single transmembrane segment, and an intracellular tyrosine kinase domain that mediates downstream signaling. Ligand engagement activates receptor dimerization and autophosphorylation, triggering pathways including PI3K-Akt, MAPK, and JAK-STAT, which drive macrophage lineage programs. Zebrafish csf1r maps to chromosome 12, with transcriptional regulation controlled by myeloid-specific transcription factors such as pu.1/spi1b. Co-localization studies frequently detect Csf1r alongside macrophage markers like mpeg1.1, csf1ra-paralog markers, and microglial markers in the embryonic brain.

A Zebrafish Csf1r antibody is suitable for detecting Csf1r in studies focused on macrophage biology, microglial development, innate immune cell behavior, and hematopoietic lineage regulation in Danio rerio. Its membrane-associated labeling allows researchers to track macrophage progenitor emergence, monitor migration and colonization of tissues, and evaluate immune responses during infection, tissue injury, or inflammation. Because csf1r is dynamically regulated in response to environmental and developmental cues, this antibody supports investigations into immune system maturation, neuroimmune crosstalk, and signaling pathways governing innate immune populations. This reagent 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 Csf1r antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Csf1r recombinant protein (amino acids D409-C977) was used as the immunogen for the Zebrafish Csf1r antibody.

Storage

After reconstitution, the Zebrafish Csf1r antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.