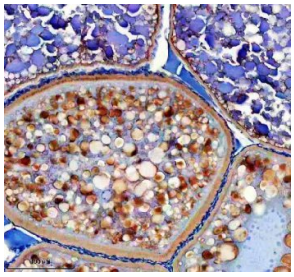
Zebrafish MC4R Antibody / Melanocortin Receptor 4 Antibody (RZ1435)

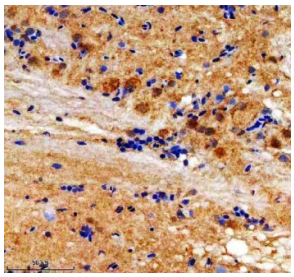
Catalog No.	Formulation	Size
RZ1435	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

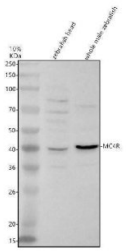
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 mL distilled water to yield a final antibody concentration of 500 ug/mL.
UniProt	B0V1P1
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Zebrafish MC4R Antibody / Melanocortin Receptor 4 Antibody is available for research use only.



Zebrafish MC4R Antibody Ovary IHC. Immunohistochemistry staining of paraffin-embedded zebrafish ovary tissue using MC4R antibody demonstrates widespread cytoplasmic and membranous staining throughout oocyte-associated cellular compartments, consistent with expression of Melanocortin Receptor 4 (MC4R). MC4R is a G protein-coupled receptor that mediates melanocortin signaling pathways involved in neuroendocrine communication, energy homeostasis, and hormonal regulation. The observed staining pattern within ovarian tissue is consistent with the established role of melanocortin signaling in coordinating endocrine functions and reproductive physiology in vertebrates. Heat-mediated antigen retrieval was performed in EDTA buffer. Tissue sections were stained with 2 ug/ml primary antibody and visualized using DAB chromogen.



Zebrafish MC4R Antibody Brain IHC. Immunohistochemistry staining of paraffin-embedded zebrafish brain tissue using MC4R antibody demonstrates widespread cytoplasmic and membranous staining within neural cell populations, consistent with expression of Melanocortin Receptor 4 (MC4R). MC4R is a G protein-coupled receptor that mediates melanocortin-dependent neuroendocrine signaling pathways involved in energy homeostasis, feeding regulation, and hormonal communication. The observed staining pattern within brain tissue is consistent with the established role of MC4R in coordinating neuronal and endocrine signaling networks that regulate physiologic homeostasis and adaptive responses in vertebrates. Heat-mediated antigen retrieval was performed in EDTA buffer. Tissue sections were stained with 2 ug/ml primary antibody and visualized using DAB chromogen.



Zebrafish MC4R Antibody WB. Western blot analysis of MC4R using anti-MC4R antibody demonstrates a distinct immunoreactive band at approximately 40 kDa in zebrafish head and whole male tissue lysates, consistent with expression of Melanocortin Receptor 4 (MC4R). MC4R is a G protein-coupled receptor that mediates melanocortin signaling pathways involved in neuroendocrine communication, energy homeostasis, feeding regulation, and hormonal control. The observed expression in neural and whole-body tissues is consistent with the established role of MC4R in coordinating physiologic responses through conserved endocrine and neuronal signaling networks. Western blot was performed using 0.5 ug/ml primary antibody. Predicted molecular weight: ~36 kDa.

Description

Zebrafish MC4R Antibody / Melanocortin Receptor 4 Antibody is designed for the detection and study of MC4R, a member of the melanocortin receptor family and the G protein-coupled receptor (GPCR) superfamily. MC4R functions as a membrane-associated receptor that mediates responses to melanocortin peptides and participates in neuroendocrine signaling pathways that regulate physiologic homeostasis. Through these activities, MC4R contributes to communication between the nervous system and endocrine networks that coordinate energy utilization, feeding behavior, and developmental processes.

Melanocortin Receptor 4 functions by converting extracellular hormonal signals into intracellular signaling responses that influence neuronal activity and gene expression. Members of the melanocortin receptor family are important regulators of energy balance and metabolic signaling across vertebrate species. As a GPCR, MC4R participates in signaling cascades that allow cells to respond to hormonal and environmental cues while maintaining physiologic equilibrium.

Zebrafish provide a valuable vertebrate model for investigating neuroendocrine regulation, metabolic signaling, and receptor-mediated communication pathways. The melanocortin signaling system is highly conserved among vertebrates and plays important roles in coordinating neuronal and endocrine responses. Studies utilizing zebrafish models have helped improve understanding of how neuroendocrine signaling pathways influence development, growth, metabolism, and adaptive physiologic responses.

Beyond metabolic regulation, MC4R has attracted interest in research involving endocrine biology, neuronal signaling, developmental physiology, and hormone-regulated cellular communication. Because GPCR-mediated pathways influence numerous biologic processes, MC4R remains an important target for investigations examining how extracellular signals regulate cellular behavior and systemic physiologic functions. Its central role within conserved neuroendocrine signaling networks has established MC4R as a widely studied receptor across vertebrate systems.

Zebrafish MC4R Antibody is useful for investigating neuroendocrine signaling, melanocortin receptor biology, metabolic regulation, endocrine communication, and vertebrate developmental pathways. Researchers utilize MC4R expression studies to better understand molecular mechanisms governing hormone-mediated signaling, physiologic homeostasis, and receptor-dependent cellular responses.

Learn more about MC4-R and its role in appetite regulation, neuroendocrine signaling, and metabolic control on our MC4-R Antibody / Energy Homeostasis Receptor 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 MC4R Antibody / Melanocortin Receptor 4 Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish MC4R recombinant protein (amino acids M1-S125) was used as the immunogen for the Zebrafish MC4R Antibody.

Storage

After reconstitution, the Zebrafish MC4R 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 MC4R Antibody, Zebrafish Melanocortin Receptor 4 Antibody, Zebrafish Melanocortin 4 Receptor Antibody, Zebrafish GPCR Antibody, Zebrafish Neuroendocrine Receptor Antibody, Zebrafish Hormone Signaling Receptor Antibody, Zebrafish Feeding Regulation Receptor Antibody

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