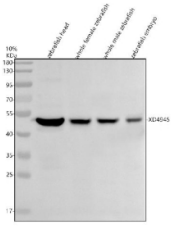
Zebrafish Gata3 Antibody / GATA binding factor 3 (RZ1192)

Catalog No.	Formulation	Size
RZ1192	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
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q91428
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Gata3 antibody is available for research use only.



Western blot analysis of Gata3 protein using Zebrafish Gata3 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~48 kDa.

Description

Zebrafish Gata3 antibody detects Gata3, a zinc finger transcription factor essential for neural development, endocrine differentiation, and patterning of multiple embryonic tissues. In zebrafish (Danio rerio), Gata3 helps establish transcriptional programs that regulate neurogenesis, otic vesicle formation, pharyngeal arch development, and components of the immune and endocrine systems. Known in the literature as GATA binding factor 3, this regulator belongs to the GATA family of transcription factors that bind conserved WGATAR motifs to control gene expression during early vertebrate development. Because its functions are deeply conserved, Zebrafish Gata3 antibody reagents support research in neural patterning, sensory organ development, and transcriptional regulation.

During early embryogenesis, gata3 expression is detected in neural crest derivatives, the developing inner ear, endocrine primordia, and regions of the central nervous system. Gata3 is required for proper differentiation of otic vesicle structures, including sensory hair cells and supporting epithelial cells, making zebrafish an important model for studying conserved mechanisms of vertebrate hearing and balance. In neural tissues, Gata3 operates downstream of Notch, FGF, and Wnt signaling, coordinating decisions between progenitor maintenance and neuronal lineage commitment. Zebrafish proteins such as Gata3 are frequently described using Danio rerio naming conventions, and scientific publications often reference Danio Gata3 or Danio rerio Gata3 interchangeably with zebrafish terminology.

Beyond its neural roles, GATA binding factor 3 participates in patterning of the pharyngeal arches and regulates transcriptional cascades that guide craniofacial development. It influences migration and differentiation of neural crest-derived mesenchyme and contributes to formation of jaw structures and gill arches. In endocrine development, Gata3 supports specification and maturation of tissues such as the thyroid, parathyroid equivalents, and certain neuroendocrine cell populations.

Gata3 also plays roles in hematopoietic and immune-related pathways. Although zebrafish immune systems differ from mammals, Gata3 contributes to lymphoid lineage specification and helps regulate transcriptional networks associated with innate and adaptive responses. Its broad developmental roles make Gata3 a central regulatory component in shaping vertebrate tissue architecture.

At the molecular level, Gata3 contains two conserved zinc finger domains that bind cis-regulatory DNA elements and recruit cofactors including chromatin remodelers, co-activators, and repressors. These interactions allow Gata3 to activate or repress transcription depending on cellular context. Subcellular localization is nuclear, where dynamic regulation integrates signaling cues from BMP, Hedgehog, and retinoic acid pathways.

As embryonic tissues mature, Gata3 remains important for maintaining structural and functional identity. In zebrafish sensory systems, it ensures continued differentiation of hair cells and supporting cell populations. In neural circuits, it contributes to patterning of specific neuronal subsets. Zebrafish, with their transparent embryos and genetically tractable systems, provide an ideal model to visualize Gata3-dependent developmental processes in vivo.

A Zebrafish Gata3 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining neurogenesis, sensory organ development, endocrine formation, and transcriptional regulation. This antibody targets GATA binding factor 3 for studies involving vertebrate developmental biology and gene regulatory networks. NSJ Bioreagents provides the Zebrafish Gata3 antibody to support research in neural and endocrine development.

Application Notes

Optimal dilution of the Zebrafish Gata3 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Gata3 recombinant protein (amino acids M1-S432) was used as the immunogen for the Zebrafish Gata3 antibody.

Storage

After reconstitution, the Zebrafish Gata3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.