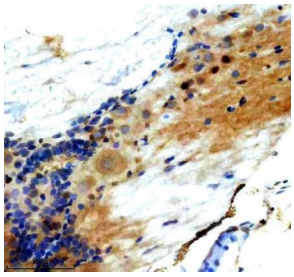
Zebrafish LHX3 Antibody / LIM Homeobox Protein 3 Antibody (RZ1396)

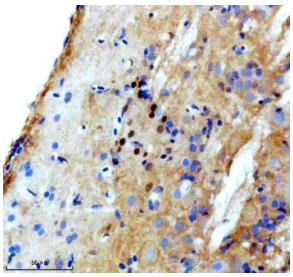
Catalog No.	Formulation	Size
RZ1396	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

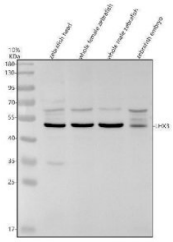
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 mL distilled water to yield a final antibody concentration of 500 ug/mL.
UniProt	Q90421
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Zebrafish LHX3 Antibody / LIM Homeobox Protein 3 Antibody is available for research use only.



Zebrafish LHX3 Antibody Spinal Cord IHC. Immunohistochemistry staining of paraffin-embedded zebrafish spinal cord tissue using Zebrafish LHX3 Antibody / LIM Homeobox Protein 3 Antibody demonstrates nuclear and cytoplasmic HRP-DAB brown staining within neuronal cell populations. The staining pattern is consistent with expression of LHX3, a LIM-homeodomain transcription factor that plays essential roles in motor neuron specification, spinal cord development, neuronal differentiation, and embryonic patterning. LHX3 is a key regulator of developmental gene expression programs and is widely studied as a marker of developing neural tissues and vertebrate neurogenesis. HIER was performed using EDTA buffer. Tissue sections were blocked with 10% goat serum and incubated with primary antibody at 2 ug/ml overnight at 4Â°C prior to detection with HRP-conjugated secondary antibody and DAB chromogen.



Zebrafish LHX3 Antibody Brain IHC. Immunohistochemistry staining of paraffin-embedded zebrafish brain tissue using Zebrafish LHX3 Antibody / LIM Homeobox Protein 3 Antibody demonstrates predominantly nuclear HRP-DAB brown staining within discrete neuronal cell populations. The staining pattern is consistent with expression of LHX3, a LIM-homeodomain transcription factor that regulates neuronal specification, motor neuron development, pituitary organogenesis, and embryonic patterning. LHX3 functions as a developmental transcriptional regulator controlling gene expression programs required for nervous system formation and cellular differentiation, making it an important marker for studies of neurodevelopment and vertebrate embryogenesis. HIER was performed using EDTA buffer. Tissue sections were blocked with 10% goat serum and incubated with primary antibody at 2 ug/ml overnight at 4Â°C prior to detection with HRP-conjugated secondary antibody and DAB chromogen.



Zebrafish LHX3 Antibody WB. Western blot analysis of zebrafish head tissue lysate (lane 1), whole female zebrafish tissue lysate (lane 2), whole male zebrafish tissue lysate (lane 3), and zebrafish embryo tissue lysate (lane 4) using Zebrafish LHX3 Antibody / LIM Homeobox Protein 3 Antibody demonstrates a prominent immunoreactive band at approximately 43-50 kDa, consistent with expression of LHX3. LHX3 is a LIM-homeodomain transcription factor that plays essential roles in motor neuron specification, spinal cord development, pituitary organogenesis, and embryonic patterning. As a key regulator of developmental gene expression programs, LHX3 is widely studied in neurodevelopment, endocrine system formation, and vertebrate embryogenesis. Thirty micrograms of protein lysate were resolved under reducing conditions on a 10% SDS-PAGE gel and transferred to nitrocellulose prior to immunodetection. The observed bands support detection of zebrafish LHX3 by western blot analysis. Predicted molecular weight: ~43 kDa.

Description

Zebrafish LHX3 Antibody / LIM Homeobox Protein 3 Antibody detects LHX3, a LIM-homeodomain transcription factor that plays a critical role in nervous system development, pituitary organogenesis, cellular differentiation, and vertebrate embryonic patterning. LHX3 belongs to the LIM-homeobox family of transcriptional regulators and functions by controlling gene expression programs required for the specification and maturation of multiple cell lineages during development. Due to its highly conserved biological functions, LHX3 has become an important target for studies of neurodevelopment, endocrine system formation, and tissue differentiation in zebrafish models.

LHX3 is particularly important for the development of the spinal cord, motor neurons, interneurons, and pituitary cell populations. During embryogenesis, LHX3 participates in transcriptional networks that regulate neuronal identity, cell fate determination, and tissue patterning. Expression of LHX3 is frequently examined in zebrafish developmental studies investigating central nervous system formation, neuronal differentiation, and the molecular mechanisms that guide vertebrate organogenesis.

In addition to its role in neural development, LHX3 contributes to pituitary gland formation and endocrine system maturation. Studies in multiple vertebrate species have demonstrated that disruption of LHX3 function can alter developmental pathways involved in hormone-producing cell lineages and tissue specification. Because many of these regulatory mechanisms are conserved in zebrafish, this model organism provides a valuable system for investigating the genetic pathways controlled by LHX3 during embryonic development.

LHX3 functions as a sequence-specific DNA-binding transcription factor and cooperates with additional developmental regulators to coordinate complex gene expression programs. Through these activities, LHX3 influences cellular proliferation, differentiation, and maintenance of specialized developmental states. Researchers frequently use LHX3 expression as an indicator of developing neural and endocrine tissues, making it a valuable marker for developmental biology and stem cell differentiation studies.

Zebrafish LHX3 Antibody / LIM Homeobox Protein 3 Antibody is useful for researchers studying neurodevelopment, motor neuron biology, pituitary development, embryogenesis, stem cell differentiation, developmental genetics, and transcriptional regulation. Applications may include immunohistochemistry, immunofluorescence, western blotting, and other protein expression analyses when supported by validation data. As a key developmental transcription factor, LHX3 remains an important target for understanding the molecular mechanisms that govern nervous system formation, endocrine development, and vertebrate tissue specification.

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 LHX3 Antibody / LIM Homeobox Protein 3 Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish LHX3 recombinant protein (amino acids Q11-Q330) was used as the immunogen for the Zebrafish LHX3 Antibody.

Storage

After reconstitution, the Zebrafish LHX3 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 LHX3 Antibody, Zebrafish LIM Homeobox Protein 3 Antibody, Zebrafish LIM/Homeobox Protein Lhx3 Antibody, Zebrafish LIM Homeodomain Transcription Factor 3 Antibody, Zebrafish Pituitary Development Factor Antibody, Zebrafish Motor Neuron Development Protein Antibody

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