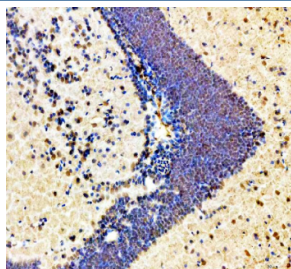


Zebrafish Hmgb1 Antibody / Hmgb1a / Hmgb1b (RZ1154)

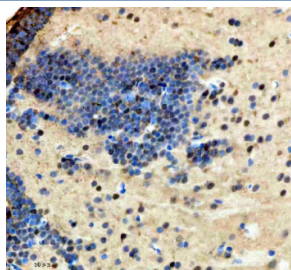
Catalog No.	Formulation	Size
RZ1154	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

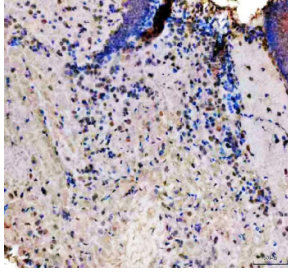
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6NX86, X1WFI9
Localization	Nuclear, cytoplasmic, cell membrane, extracellular
Applications	Immunohistochemistry (FFPE) : 2-5 ug/ml Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Hmgb1 antibody is available for research use only.



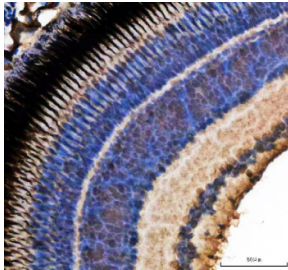
Zebrafish Hmgb1 Antibody Brain Tissue IHC - Nuclear Localization.
Immunohistochemical analysis of Hmgb1a/b protein using Zebrafish Hmgb1 antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish brain tissue.
HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



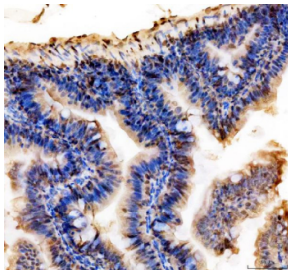
Zebrafish Hmgb1 Antibody Brain Tissue IHC - Chromatin Binding Protein.
Immunohistochemical analysis of Hmgb1a/b protein using Zebrafish Hmgb1 antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish brain tissue.
HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



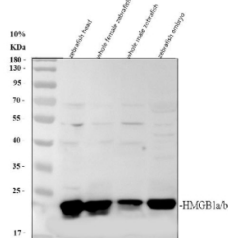
Zebrafish Hmgb1 Antibody Brain Tissue IHC - Ubiquitous Expression.
Immunohistochemical analysis of Hmgb1a/b protein using Zebrafish Hmgb1 antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hmgb1 Antibody Eye Tissue IHC. Immunohistochemical analysis of Hmgb1a/b protein using Zebrafish Hmgb1 antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish eye tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hmgb1 Antibody Colon Tissue IHC. Immunohistochemical analysis of Hmgb1a/b protein using Zebrafish Hmgb1 antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish colon tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hmgb1 Antibody Tissue WB. Western blot analysis of Hmgb1a/b protein using Zebrafish Hmgb1 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~23 kDa.

Description

Zebrafish (*Danio rerio*) Hmgb1 antibody detects Hmgb1, a highly conserved chromatin-binding protein that influences DNA architecture, transcriptional regulation, and innate immune signaling. In zebrafish, this activity is carried out by two paralogs, hmgb1a and hmgb1b, which encode proteins structurally and functionally similar to mammalian HMGB1. Hmgb1 belongs to the high mobility group box family, defined by two HMG-box DNA-binding domains that bend and stabilize DNA to facilitate transcription factor access, nucleosome remodeling, and DNA repair. Because Hmgb1 integrates roles in nuclear regulation and extracellular signaling, Zebrafish Hmgb1 antibody reagents support research in chromatin biology, inflammation, development, and tissue remodeling.

Inside the nucleus, Hmgb1 regulates transcription by modulating chromatin accessibility. It interacts with diverse transcription factors and DNA structures, enhancing the recruitment of regulatory proteins to promoter and enhancer regions. In zebrafish embryos, Hmgb1a and Hmgb1b are widely expressed in proliferative and differentiating tissues including the brain, somites, vasculature, and organs undergoing rapid morphogenesis. These expression domains reflect the need for dynamic chromatin regulation during early developmental patterning.

Hmgb1 also plays critical roles in DNA repair. By binding to damaged DNA and interacting with repair complexes, it

assists pathways such as base excision repair and nucleotide excision repair. During zebrafish development, when cells undergo rapid division and experience replicative stress, proper Hmgb1 function helps maintain genomic stability and prevent accumulation of DNA lesions.

In addition to its nuclear functions, Hmgb1 can act extracellularly as a signaling molecule. When released from stressed or damaged cells, Hmgb1 functions as an alarmin that activates innate immune receptors including RAGE and TLRs, promoting inflammation, tissue repair, and regeneration. Zebrafish are widely used to study tissue injury responses, and Hmgb1 participates in wound healing, immune cell recruitment, and regenerative processes. Differences between Hmgb1a and Hmgb1b expression may contribute to paralog-specific functions in immune signaling or stress adaptation.

At the molecular level, Hmgb1 binds DNA in a sequence-independent manner, recognizing structural features such as bends, loops, or unwound regions. Its two HMG-box domains enable DNA bending and chromatin decompaction, supporting transcriptional activation and nucleosome mobility. Subcellular localization is primarily nuclear under homeostatic conditions, but Hmgb1 translocates to the cytoplasm or extracellular space during inflammatory or stress responses. This dynamic localization underscores its dual role as both a chromatin regulator and extracellular signaling factor.

Because Hmgb1 regulates transcriptional networks, participates in DNA repair, and modulates innate immunity, disruptions in its function can have broad effects on development. In zebrafish, altered hmgb1a or hmgb1b expression influences neurodevelopment, vascular formation, inflammation, and regenerative capacity. These conserved functions make zebrafish an excellent model for exploring Hmgb1 roles in development and disease.

A Zebrafish Hmgb1 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining chromatin dynamics, transcriptional regulation, immune signaling, and tissue repair. This antibody targets Hmgb1a and Hmgb1b for studies involving nuclear architecture, inflammation, and vertebrate developmental biology. NSJ Bioreagents provides the Zebrafish Hmgb1 antibody to support research in chromatin regulation and innate immunity.

Beyond its nuclear role, Hmgb1 can act as an extracellular signaling molecule involved in inflammation, immune responses, and tissue repair. The human ortholog of zebrafish Hmgb1 is HMGB1, which is highly conserved and serves similar functions in chromatin dynamics and extracellular signaling. This evolutionary conservation highlights its importance in both normal physiology and disease research.

Using a high-quality Zebrafish Hmgb1 antibody enables accurate detection in applications such as western blot, immunohistochemistry, and immunofluorescence. A Zebrafish Hmgb1 antibody from NSJ Bioreagents ensures sensitivity and reproducibility for studies of chromatin remodeling, immune signaling, and developmental biology. Selecting the right Zebrafish Hmgb1 antibody is essential for generating reliable and consistent results.

This Zebrafish antibody is part of a [broader Zebrafish / Danio rerio antibody panel](#) offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Zebrafish Hmgb1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Hmgb1a/b recombinant protein (amino acids D123-K153) was used as the immunogen for the Zebrafish Hmgb1 antibody. This antibody will detect the a and b isoforms.

Storage

After reconstitution, the Zebrafish Hmgb1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

