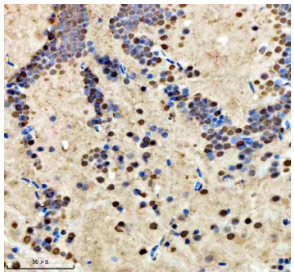
Zebrafish Hmgb2 Antibody / Hmgb2a / Hmgb2b (RZ1169)

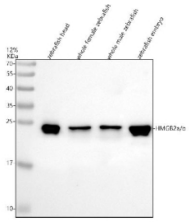
Catalog No.	Formulation	Size
RZ1169	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

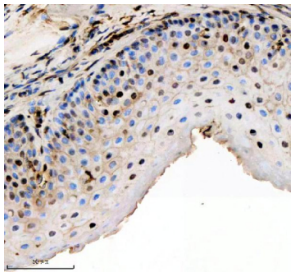
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q32PT3
Localization	Nuclear, cytoplasmic
Applications	Western blot: 0.5-1 ug/ml Immunohistochemistry (FFPE): 2-5 ug/ml
Limitations	This Zebrafish Hmgb2 antibody is available for research use only.



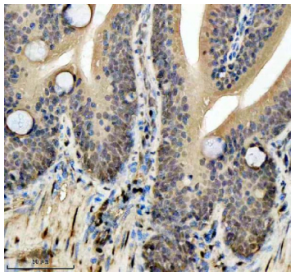
Zebrafish Hmgb2 Antibody Brain Tissue IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Zebrafish Hmgb2 antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



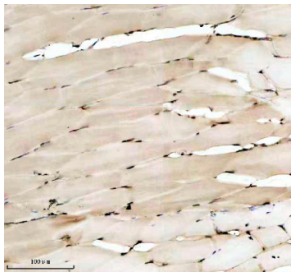
Zebrafish Hmgb2 Antibody Tissue WB. Western blot analysis of Hmgb2a/b protein using Zebrafish Hmgb2 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~24 kDa.



Zebrafish Hmgb2 Antibody Esophagus Tissue IHC. Immunohistochemistry staining of FFPE zebrafish esophagus tissue with Zebrafish Hmgb2 antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hmgb2 Antibody Colon Tissue IHC. Immunohistochemistry staining of FFPE zebrafish colon tissue with Zebrafish Hmgb2 antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hmgb2 Antibody Muscle Tissue IHC. Immunohistochemistry staining of FFPE zebrafish muscle tissue with Zebrafish Hmgb2 antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Hmgb2 antibody detects Hmgb2, a chromatin-associated protein belonging to the high mobility group box (HMGB) family, which regulates DNA architecture, transcriptional activity, and cellular differentiation. In zebrafish, two paralogs, hmgb2a and hmgb2b, encode structurally conserved HMGB2 proteins that function as architectural regulators of chromatin accessibility. Hmgb2 binds DNA in a sequence-independent manner and alters chromatin conformation, facilitating access for transcription factors, nucleosome remodelers, and DNA repair complexes. Because transcriptional precision is essential during embryogenesis, Zebrafish Hmgb2 antibody reagents support research in chromatin regulation, developmental gene control, and nuclear signaling pathways.

Hmgb2 plays important roles in shaping transcriptional landscapes. By bending and stabilizing DNA structures, Hmgb2 supports promoter-enhancer communication and influences the assembly of transcriptional complexes. In zebrafish embryos, Hmgb2a and Hmgb2b are widely expressed in proliferative zones, including the developing neural tube, brain, somites, and hematopoietic tissues. These regions depend on dynamic chromatin organization to regulate lineage-specific gene expression programs required for growth and differentiation.

Beyond transcription, Hmgb2 contributes to DNA repair and genome stability. HMGB proteins interact with components of base excision repair, nucleotide excision repair, and double-strand break repair, helping recruit or stabilize repair machinery at sites of damage. In zebrafish, where rapid cell cycles increase the likelihood of replicative stress, Hmgb2 helps maintain genome integrity and supports normal embryonic development. Loss or reduction of HMGB2 activity in vertebrates has been associated with impaired neurogenesis, tissue degeneration, and altered epigenetic states.

Hmgb2 also plays roles in cellular proliferation and senescence. In mammalian systems, HMGB2 is enriched in dividing progenitor cells and declines as cells exit the cell cycle, suggesting functions in chromatin accessibility during replication and division. Zebrafish models may exhibit similar regulatory dynamics, as embryonic tissues with high proliferative activity often require robust chromatin remodeling to accommodate rapid transcriptional shifts.

At the molecular level, Hmgb2 contains two HMG-box domains responsible for DNA binding and bending, along with acidic C-terminal regions that modulate protein-protein interactions. These structural features allow Hmgb2 to interact with a broad range of nuclear partners, including transcription factors, histone-modifying enzymes, and chromatin remodelers. Subcellular localization is predominantly nuclear, often enriched in euchromatic regions where active transcription occurs.

Hmgb2 also influences extracellular signaling under certain contexts. Although primarily nuclear, HMGB proteins can be released from cells during injury or stress, where they act as damage-associated molecular patterns. While these extracellular roles are less characterized for Hmgb2 in zebrafish, the conservation of HMGB family features suggests potential involvement in inflammation or tissue repair responses.

A Zebrafish Hmgb2 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining chromatin structure, transcriptional regulation, nuclear architecture, and DNA repair. This antibody targets Hmgb2a and Hmgb2b for studies involving gene expression dynamics, developmental patterning, and nuclear signaling. NSJ Bioreagents provides the Zebrafish Hmgb2 antibody to support research in chromatin biology and vertebrate development.

This Zebrafish antibody is part of a broader Zebrafish / Danio rerio antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Zebrafish Hmgb2 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Hmgb2a/b recombinant protein (amino acids K64-R97) was used as the immunogen for the Zebrafish Hmgb2 antibody. This antibody will detect the a and b isoforms.

Storage

After reconstitution, the Zebrafish Hmgb2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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