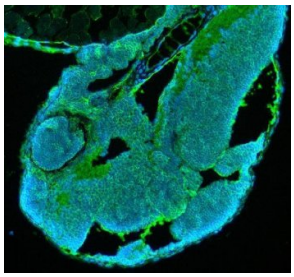
Zebrafish HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody (RZ1397)

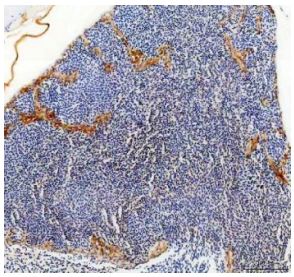
Catalog No.	Formulation	Size
RZ1397	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

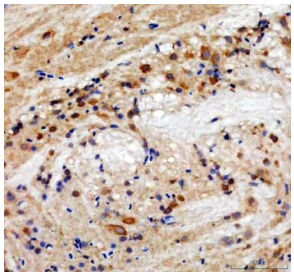
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 mL distilled water to yield a final antibody concentration of 500 ug/mL.
UniProt	Q90474
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml
Limitations	This Zebrafish HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody is available for research use only.



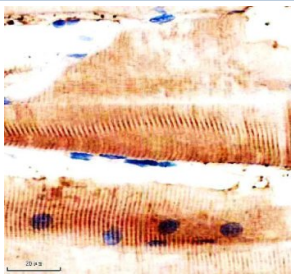
Zebrafish HSP90AA1 Antibody IF. Immunofluorescent staining of paraffin-embedded zebrafish embryo tissue using Zebrafish HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates widespread green fluorescence throughout developing embryonic tissues. The staining pattern is consistent with expression of HSP90A, a highly conserved molecular chaperone orthologous to human HSP90AA1 (heat shock protein 90 alpha family class A member 1). HSP90A functions in protein folding, stabilization of signaling proteins, cellular stress responses, and maintenance of proteostasis, making it essential for normal embryonic development and tissue homeostasis. HIER was performed in pH 8.0 EDTA buffer prior to staining. Tissue sections were blocked with 10% goat serum and incubated with primary antibody at 5 ug/ml overnight at 4Â°C. DyLightÂ®488-conjugated goat anti-rabbit IgG was used as the secondary antibody (green), and nuclei were counterstained with DAPI (blue). The image supports detection of HSP90A expression in developing zebrafish embryonic tissues by immunofluorescence.



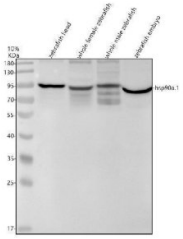
Zebrafish HSP90AA1 Antibody Cardiac Tissue IHC. Immunohistochemical analysis of paraffin-embedded zebrafish cardiac tissue using Zebrafish HSP90AA1 Antibody demonstrates cytoplasmic HRP-DAB brown staining within cells and tissue structures of the heart region. HSP90AA1 is a molecular chaperone involved in protein folding, stress responses, signal transduction, and maintenance of cellular proteostasis. Positive staining is observed in cardiac-associated tissue containing abundant blood cells, consistent with the widespread expression of HSP90AA1 in metabolically active vertebrate tissues. Heat-induced antigen retrieval was performed in EDTA buffer prior to incubation with HSP90AA1 antibody (2 ug/ml) and DAB detection.



Zebrafish HSP90AA1 Antibody Brain IHC. Immunohistochemistry staining of paraffin-embedded zebrafish brain tissue using Zebrafish HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates widespread cytoplasmic HRP-DAB brown staining within neural tissue-associated cellular populations. The staining pattern is consistent with expression of HSP90A, a highly conserved molecular chaperone orthologous to human HSP90AA1 (heat shock protein 90 alpha family class A member 1). HSP90A functions in protein folding, stabilization of signaling proteins, cellular stress responses, and maintenance of proteostasis, making it an important regulator of neuronal homeostasis and developmental signaling pathways. HIER was performed in pH 8.0 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 HSP90AA1 Antibody Muscle IHC. Immunohistochemistry staining of paraffin-embedded zebrafish muscle tissue using Zebrafish HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates strong cytoplasmic HRP-DAB brown staining within striated muscle fibers. The staining pattern is consistent with expression of HSP90A, a highly conserved molecular chaperone orthologous to human HSP90AA1 (heat shock protein 90 alpha family class A member 1). HSP90A functions in protein folding, stabilization of signaling proteins, maintenance of proteostasis, and cellular responses to physiological and environmental stress. The prominent staining observed within muscle fibers is consistent with the substantial protein quality control and metabolic demands of contractile tissues. HIER was performed in pH 8.0 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 HSP90AA1 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 HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates a prominent immunoreactive band at approximately 83-95 kDa, consistent with expression of HSP90A. HSP90A is a highly conserved molecular chaperone orthologous to human HSP90AA1 (heat shock protein 90 alpha family class A member 1) and functions in protein folding, stabilization of signaling proteins, maintenance of proteostasis, and cellular stress-response pathways. As one of the most abundant intracellular chaperones, HSP90A plays essential roles in embryonic development, signal transduction, and adaptation to physiological and environmental stress. 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 HSP90A by western blot analysis. Predicted molecular weight: ~83 kDa.

Description

Zebrafish HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody detects HSP90A, a highly conserved molecular chaperone that is orthologous to human HSP90AA1 (heat shock protein 90 alpha family class A member 1). HSP90 proteins are among the most abundant and extensively studied chaperones in eukaryotic cells, where they function to maintain protein stability, facilitate proper protein folding, and regulate the activity of numerous signaling molecules. In zebrafish, HSP90A contributes to developmental processes, cellular homeostasis, and adaptive responses to environmental stress, making it an important target for developmental biology and stress-response research.

HSP90AA1 functions as an ATP-dependent molecular chaperone that assists in the folding, stabilization, transport, and activation of a diverse range of client proteins. These include kinases, transcription factors, hormone receptors, and signaling molecules involved in cellular growth, differentiation, and survival. Through interactions with co-chaperones and client proteins, HSP90A helps maintain protein quality control and ensures the proper function of essential regulatory pathways. Because of these widespread activities, HSP90 proteins influence numerous biological processes across virtually all cell types.

In zebrafish developmental biology, HSP90A plays important roles during embryogenesis and tissue formation. The protein supports proper folding and activity of developmental regulators required for normal vertebrate growth and morphogenesis. Expression of HSP90 family members is frequently monitored in studies examining embryonic development, environmental adaptation, and cellular responses to physiological stress. The evolutionary conservation of HSP90 function makes zebrafish an excellent model for investigating molecular chaperone biology and proteostasis mechanisms relevant to vertebrate systems.

HSP90A is also a central component of the cellular stress response. Expression and activity of HSP90 proteins may be influenced by heat shock, oxidative stress, toxicant exposure, inflammation, and other environmental challenges. Through stabilization of damaged or partially unfolded proteins, HSP90A helps protect cells from proteotoxic stress and promotes recovery following adverse conditions. Consequently, HSP90A is widely used as a marker of stress-response pathways and cellular adaptation mechanisms in toxicology and environmental research.

Beyond its role in protein quality control, HSP90A participates in the regulation of signal transduction networks, cell cycle progression, apoptosis, and cellular differentiation. The broad client repertoire of HSP90 has made it a major focus of studies investigating developmental signaling pathways, disease mechanisms, and molecular chaperone function. Researchers frequently examine HSP90A expression as an indicator of cellular homeostasis and proteostasis regulation in both normal and experimentally manipulated biological systems.

Zebrafish HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody is useful for researchers studying molecular chaperones, protein folding, stress-response pathways, embryonic development, signal transduction, toxicology, and cellular homeostasis. Applications may include immunohistochemistry, immunofluorescence, western blotting, and other protein expression analyses when supported by validation data. As one of the most highly conserved and biologically important chaperone proteins, HSP90A remains an essential target for understanding the molecular mechanisms that maintain protein stability, cellular resilience, and developmental integrity in zebrafish.

Learn more about HSP90AA1 expression, molecular chaperone function, protein folding, and cellular stress-response pathways on our HSP90AA1 Antibody / Heat Shock Protein 90 Alpha 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 HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish HSP90A recombinant protein (amino acids R393-G688) was used as the immunogen for the

Zebrafish HSP90AA1 / HSP90A Antibody.

Storage

After reconstitution, the Zebrafish HSP90AA1 / HSP90A 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 HSP90A Antibody, Zebrafish Heat Shock Protein 90 Alpha Antibody, Zebrafish HSP90 Alpha Antibody, Zebrafish Heat Shock Protein 90 Alpha Family Class A Member 1 Antibody, Zebrafish Molecular Chaperone HSP90 Antibody, Zebrafish Stress Response Protein Antibody