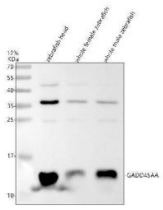
Zebrafish GADD45A Antibody / GADD45AA Antibody (RZ1355)

Catalog No.	Formulation	Size
RZ1355	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	F1R8Z0
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish GADD45A Antibody / GADD45AA Antibody is available for research use only.



Zebrafish GADD45A / GADD45AA Antibody Stress Response WB. Western blot analysis of zebrafish head tissue, whole female zebrafish, and whole male zebrafish lysates using Zebrafish GADD45A Antibody demonstrates a prominent immunoreactive band at approximately 15-17 kDa, consistent with the predicted molecular weight of Growth Arrest and DNA Damage Inducible Alpha A (GADD45AA). GADD45AA is a stress-responsive protein involved in DNA damage signaling, cell cycle regulation, genomic stability, and cellular responses to environmental stress. The observed expression pattern across multiple zebrafish tissue sources is consistent with the established role of GADD45 family proteins in maintaining cellular homeostasis and coordinating protective responses to physiological and genotoxic challenges. Minor higher molecular weight immunoreactive bands are also observed and may represent cross-reactive species or other antibody-reactive proteins. Electrophoresis was performed on a 12% SDS-PAGE gel under reducing conditions followed by transfer to a nitrocellulose membrane. Signal was detected using an HRP-conjugated secondary antibody and enhanced chemiluminescent substrate.

Description

Zebrafish GADD45A Antibody / GADD45AA Antibody recognizes Growth Arrest and DNA Damage Inducible Alpha A (GADD45AA), a member of the GADD45 family of stress-responsive proteins that participate in regulation of DNA

damage responses, cell cycle control, and cellular adaptation to environmental stress. GADD45 proteins are rapidly induced by genotoxic stress, inflammatory stimuli, oxidative damage, and other cellular insults, where they function as important mediators of genomic stability and stress signaling pathways. Through interactions with cell cycle regulators, DNA repair proteins, and signaling molecules, GADD45AA contributes to maintenance of cellular homeostasis and protection against DNA damage. The highly conserved nature of stress response pathways has established zebrafish as an important vertebrate model for investigating GADD45AA function during development and disease.

GADD45 family proteins participate in cellular surveillance mechanisms that help coordinate responses to DNA damage and other physiological stressors. In zebrafish, GADD45AA expression is frequently examined in studies investigating environmental toxicology, radiation exposure, oxidative stress, developmental regulation, and DNA repair mechanisms. Induction of GADD45AA often serves as an indicator of cellular stress and activation of protective signaling pathways that help preserve genomic integrity. Consequently, GADD45AA is widely used as a molecular marker in studies evaluating cellular responses to genotoxic and environmental challenges.

In addition to its role in DNA damage responses, GADD45AA contributes to regulation of cell cycle progression, apoptosis, differentiation, and developmental processes. Proper control of these pathways is essential for normal tissue growth and maintenance of organismal health. Alterations in GADD45 signaling have been associated with impaired stress responses, abnormal cellular proliferation, and increased susceptibility to genomic instability. As a result, GADD45AA remains an important target in studies focused on cell cycle regulation, stress biology, and mechanisms that protect against DNA damage.

Zebrafish provide unique advantages for studying stress response pathways because developmental processes can be visualized directly and experimental stressors can be introduced in a controlled manner throughout embryonic and adult stages. Researchers frequently monitor GADD45AA expression during investigations of toxicology, environmental exposure, developmental biology, regeneration, and DNA repair. Because many stress-response pathways are highly conserved between zebrafish and mammals, findings generated using zebrafish models often provide valuable insight into vertebrate cellular defense mechanisms.

At NSJ Bioreagents, we provide highly validated antibodies for developmental biology, toxicology, cell biology, and zebrafish research. Zebrafish GADD45A Antibody / GADD45AA Antibody targets a key regulator of DNA damage responses and cellular stress signaling pathways. GADD45AA expression is widely studied in the context of genomic stability, cell cycle control, environmental stress responses, DNA repair, and vertebrate development. Continued investigation of this important stress-response protein is expanding our understanding of the molecular mechanisms that maintain cellular integrity and adaptation to physiological challenge.

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 GADD45A Antibody / GADD45AA Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish GADD45AA recombinant protein (amino acids M1-R157) was used as the immunogen for the Zebrafish GADD45A / GADD45AA Antibody.

Storage

After reconstitution, the Zebrafish GADD45A / GADD45AA 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 GADD45AA Antibody, Zebrafish Growth Arrest and DNA Damage Inducible Alpha A Antibody, Zebrafish Stress

Response Protein Antibody, Zebrafish DNA Damage Response Protein Antibody, Zebrafish Cell Cycle Regulatory Protein Antibody, Zebrafish Genotoxic Stress Marker Antibody