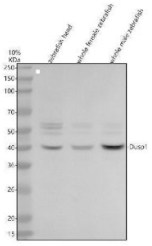
Zebrafish DUSP1 Antibody / Dual Specificity Phosphatase 1 Antibody (RZ1463)

Catalog No.	Formulation	Size
RZ1463	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	Q7ZVL8
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish DUSP1 Antibody / Dual Specificity Phosphatase 1 Antibody is available for research use only.



Zebrafish DUSP1 Antibody WB. Western blot analysis of DUSP1 expression was performed using anti-DUSP1 antibody. Electrophoresis was carried out on a 10% SDS-PAGE gel under reducing conditions. Lane 1: zebrafish head tissue lysate. Lane 2: whole female zebrafish tissue lysate. Lane 3: whole male zebrafish tissue lysate. DUSP1, also known as Dual Specificity Phosphatase 1 or MKP1 (MAP Kinase Phosphatase 1), is a stress-inducible phosphatase that negatively regulates MAPK signaling by dephosphorylating ERK, JNK, and p38 kinases. A specific immunoreactive band is detected at approximately 40 kDa in all three samples, corresponding to the expected molecular weight of DUSP1. Similar expression in head and whole-body lysates is consistent with the widespread role of DUSP1 in controlling cellular stress responses, inflammatory signaling, and developmental pathways. These results support the utility of Zebrafish DUSP1 Antibody for studies of MAPK regulation, signal transduction, and vertebrate development.

Description

Zebrafish DUSP1 Antibody / Dual Specificity Phosphatase 1 Antibody recognizes DUSP1, also known as MAP Kinase Phosphatase 1 (MKP1), a dual-specificity phosphatase that negatively regulates mitogen-activated protein kinase (MAPK)

signaling pathways. DUSP1 functions by removing phosphate groups from both threonine and tyrosine residues on activated MAP kinases, including ERK, JNK, and p38. Through this activity, DUSP1 serves as an important feedback regulator that limits the duration and intensity of cellular signaling responses. The highly conserved role of DUSP1 in controlling MAPK activity makes zebrafish a valuable model for studying signal transduction during development and stress adaptation.

Zebrafish DUSP1 Antibody / Dual Specificity Phosphatase 1 Antibody is useful for investigating cellular responses to environmental and physiological stress. DUSP1 expression is rapidly induced by growth factors, inflammatory mediators, oxidative stress, DNA damage, and other stimuli that activate MAPK pathways. By suppressing MAPK signaling, DUSP1 helps regulate cell proliferation, differentiation, apoptosis, and inflammatory responses. These functions are particularly important during embryogenesis, where precise control of signaling pathways is required for tissue patterning and organ development.

DUSP1 has been implicated in numerous biological processes and disease states including inflammation, cancer, metabolic disorders, cardiovascular disease, and neurodegeneration. Altered DUSP1 expression can influence cellular sensitivity to stress and affect the balance between survival and apoptosis. Zebrafish models have contributed to understanding how MAPK signaling networks regulate development, regeneration, and tissue homeostasis. Because DUSP1 serves as a critical checkpoint controlling ERK, JNK, and p38 signaling, it remains an important target for studies of cellular adaptation and signal transduction.

Zebrafish DUSP1 Antibody / Dual Specificity Phosphatase 1 Antibody is valuable for studies of MAPK signaling, stress responses, inflammation, development, and vertebrate regeneration. It supports investigations of signal transduction pathways, cellular adaptation, growth regulation, and mechanisms that control tissue homeostasis. The conserved function of DUSP1 as a negative regulator of MAPK activity makes Zebrafish DUSP1 Antibody / Dual Specificity Phosphatase 1 Antibody an important reagent for developmental and translational research.

Explore our DUSP1 Antibody / MAPK Signaling Regulator Antibody page for additional information on this important negative regulator of MAPK signaling and cellular stress responses.

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 DUSP1 Antibody / Dual Specificity Phosphatase 1 Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish MKP-1/DUSP1 recombinant protein (amino acids M1-P353) was used as the immunogen for the Zebrafish DUSP1 Antibody.

Storage

After reconstitution, the Zebrafish DUSP1 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 DUSP1 antibody, Zebrafish Dual Specificity Phosphatase 1 antibody, Zebrafish MKP1 antibody, Zebrafish MAP Kinase Phosphatase 1 antibody, Zebrafish Stress Response Phosphatase antibody, Zebrafish MAPK Regulator antibody

Copyright © NSJ Bioreagents. All rights reserved.