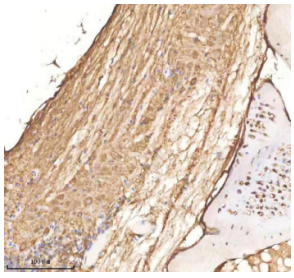
Zebrafish Cdc48 Antibody / Valosin-containing protein / Vcp (RZ1323)

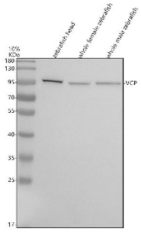
Catalog No.	Formulation	Size
RZ1323	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

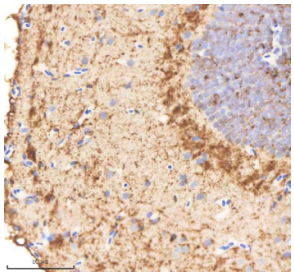
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q7ZU99
Localization	Cytoplasmic, Nuclear
Applications	Western Blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Zebrafish Cdc48 antibody is available for research use only.



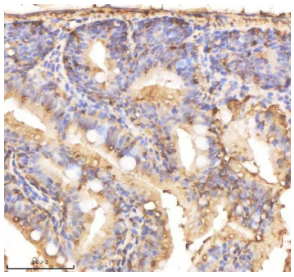
Zebrafish Cdc48 Antibody Spinal Cord Tissue IHC. Immunohistochemistry staining of FFPE zebrafish spinal cord tissue with Cdc48 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



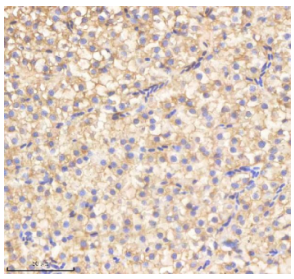
Zebrafish Cdc48 Antibody Tissue WB. Western blot analysis of Cdc48 protein using Zebrafish Cdc48 antibody and 1) zebrafish head, 2) whole female zebrafish and 3) whole male zebrafish tissue lysate. Predicted molecular weight ~89 kDa, commonly observed at 89-97 kDa. (human similarity)



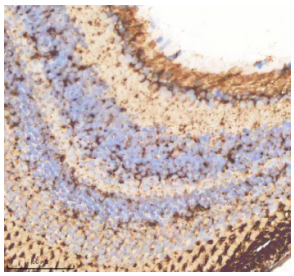
Zebrafish Cdc48 Antibody Brain Tissue IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Cdc48 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



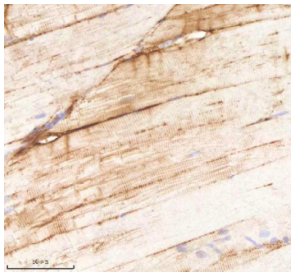
Zebrafish Cdc48 Antibody Colon Tissue IHC. Immunohistochemistry staining of FFPE zebrafish colon tissue with Cdc48 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Cdc48 Antibody Liver Tissue IHC. Immunohistochemistry staining of FFPE zebrafish liver tissue with Cdc48 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Cdc48 Antibody Eye Tissue IHC. Immunohistochemistry staining of FFPE zebrafish eye tissue with Cdc48 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Cdc48 Antibody Muscle Tissue IHC. Immunohistochemistry staining of FFPE zebrafish muscle tissue with Cdc48 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish Cdc48 antibody targets Valosin-containing protein (Vcp), also known as Cdc48, a highly conserved AAA ATPase that functions as a central regulator of protein homeostasis. In zebrafish, also known as Danio rerio, Vcp participates in multiple cellular processes that require ATP-dependent protein remodeling, including endoplasmic reticulum-associated degradation, ubiquitin-dependent protein turnover, membrane fusion events, and stress response pathways. Vcp localizes predominantly to the cytoplasm and nucleus, with dynamic recruitment to membranes and organelles depending on cellular context. As a member of the AAA ATPase family, Vcp assembles into a hexameric complex that provides mechanical force for extracting, unfolding, or remodeling client proteins.

Functionally, Vcp acts as a molecular segregase that recognizes ubiquitinated substrates through adaptor proteins and directs them toward downstream processing pathways. In zebrafish, this activity is essential during development, where rapid cell division and differentiation place high demands on protein quality control systems. Vcp expression is broadly detected across tissues, with particularly important roles in metabolically active and proliferative cell types. A Zebrafish Cdc48 antibody supports studies examining proteostasis, cellular stress adaptation, and ATP-dependent protein regulation in Danio rerio.

Zebrafish has become a valuable model for investigating conserved mechanisms of protein homeostasis due to strong evolutionary conservation of ubiquitin-proteasome and autophagy-related pathways. Disruption of Vcp function in zebrafish has been associated with accumulation of misfolded proteins, impaired organ development, and activation of cellular stress responses. These findings highlight the essential role of Vcp in maintaining cellular integrity under both physiological and stress conditions. A Zebrafish Cdc48 antibody enables analysis of Vcp expression patterns and regulation across developmental stages and experimental models.

From a biological and disease-relevance perspective, Vcp is extensively studied in mammals for its involvement in multisystem proteinopathy, neurodegenerative disease, and disorders linked to impaired protein clearance. Zebrafish Vcp provides a conserved comparative system for exploring how defects in ATP-dependent protein remodeling affect cell survival, tissue maintenance, and organismal development. Vcp also influences signaling pathways indirectly by regulating the stability of key regulatory proteins involved in cell cycle control and stress signaling.

At the molecular level, zebrafish Vcp is encoded by the vcp gene and produces a protein of approximately 806 amino acids, consistent with vertebrate Vcp orthologs. The protein contains two AAA ATPase domains that coordinate ATP binding and hydrolysis to drive conformational changes required for substrate processing. Regulation of Vcp activity depends on adaptor interactions, post-translational modification, and cellular demand for protein quality control. A Zebrafish Cdc48 antibody supports research applications focused on proteostasis, cellular stress responses, and ATP-dependent protein remodeling in zebrafish, with NSJ Bioreagents providing reagents intended for research use.

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

Application Notes

Optimal dilution of the Zebrafish Cdc48 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Cdc48 recombinant protein (amino acids D10-K512) was used as the immunogen for the Zebrafish Cdc48 antibody.

Storage

After reconstitution, the Zebrafish Cdc48 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Copyright © NSJ Bioreagents. All rights reserved.