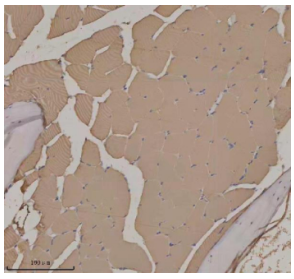
Zebrafish Actba Antibody / Beta actin (RZ1117)

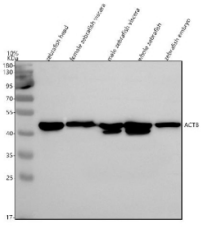
Catalog No.	Formulation	Size
RZ1117	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	Q7ZVI7
Applications	Western blot: 0.5-1 ug/ml Immunohistochemistry (FFPE): 2-5 ug/ml
Limitations	This Zebrafish Actba antibody is available for research use only.



Zebrafish Actba Antibody Skeletal Muscle IHC. Immunohistochemistry staining of FFPE zebrafish skeletal muscle tissue with Zebrafish Actba antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Actba Antibody WB. Western blot analysis of Beta Actin/Actba protein using Zebrafish Actba antibody and 1) zebrafish head, 2) female zebrafish viscera, 3) male zebrafish viscera and 4) whole zebrafish and 5) zebrafish embryo tissue lysate. Predicted molecular weight ~42 kDa.

Description

Zebrafish (Danio rerio) Actba antibody detects Actba, the zebrafish beta actin protein that forms a central component of the cytoskeleton and supports diverse cellular processes including motility, intracellular transport, and structural integrity. Actba is one of the major actin isoforms expressed throughout zebrafish development, functioning as a highly conserved element of the actin filament network. As the zebrafish homolog of vertebrate beta actin, Actba participates in polymerization dynamics that regulate cell shape, adhesion, migration, and contractility. Because beta actin is widely studied across biological fields, Zebrafish Actba antibody reagents are frequently used in research examining cytoskeletal regulation, tissue morphogenesis, and developmental biomechanics.

During zebrafish embryogenesis, actba is expressed broadly across tissues, with particularly high levels in developing muscle, neural structures, epithelial layers, and migratory cell populations. Its abundant expression reflects the central role of actin filaments during early morphogenetic movements such as epiboly, convergence-extension, and neural tube formation. Actin networks drive changes in cell geometry and coordinate force generation within tissues, enabling large-scale shaping of embryonic structures. As development progresses, Actba remains essential for maintaining cellular architecture, supporting intracellular trafficking, and contributing to dynamic remodeling required during organ formation.

Actin filaments function through tightly controlled polymerization and depolymerization cycles regulated by a suite of actin-binding proteins. Actba interacts with profilin, cofilin, tropomyosin, Arp2/3 complex, and numerous actin crosslinkers that determine filament branching, stability, and organization. These interactions govern cell-matrix adhesion, mechanotransduction, endocytosis, and vesicle movement. In zebrafish, the beta actin cytoskeleton is deeply integrated into processes such as muscle fiber assembly, neuron outgrowth, and epithelial integrity. Disruptions in actin regulation can lead to defects in contractility, cell polarity, and tissue patterning.

Actba also contributes to transcriptional and post-transcriptional regulatory mechanisms. In vertebrates, beta actin mRNA localization influences cell polarity and migration, and actin monomers participate in nuclear processes including chromatin organization and transcriptional regulation. These roles highlight the multifunctional nature of actin that extends beyond classical mechanical functions. Zebrafish, with their rapid development and optical transparency, provide a powerful system for observing these cytoskeletal events in vivo.

Subcellular localization of Actba includes the cortex, stress fibers, lamellipodia, neuronal growth cones, and muscle sarcomeres, reflecting its involvement in both stable and dynamic cytoskeletal structures. Beta actin is also present in the nucleus and contributes to chromatin remodeling and transcriptional control. Because Actba is highly conserved, antibodies recognizing zebrafish beta actin are commonly used as reference tools for protein normalization, cytoskeletal imaging, and developmental studies.

A Zebrafish Actba antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining cytoskeletal dynamics, tissue architecture, and developmental morphogenesis. This antibody targets Actba for studies focused on actin regulation, cellular mechanics, and vertebrate embryonic development. NSJ Bioreagents provides the Zebrafish Actba antibody to support research in cytoskeletal biology and developmental physiology.

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

Application Notes

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

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of zebrafish Beta actin/Actba was used as the immunogen for the Zebrafish Actba antibody.

Storage

After reconstitution, the Zebrafish Actba 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.