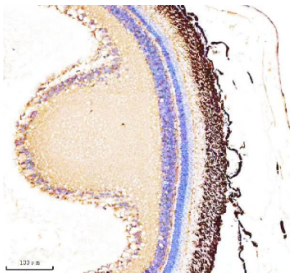
Zebrafish Actin-related protein 2 Antibody / Actr2 / Arp2 (RZ1006)

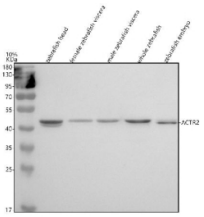
Catalog No.	Formulation	Size
RZ1006	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

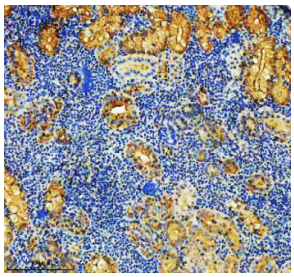
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q7SXW6
Applications	Western blot: 0.5-1 ug/ml Immunohistochemistry (FFPE): 2-5 ug/ml
Limitations	This Zebrafish Actin-related protein 2 antibody is available for research use only.



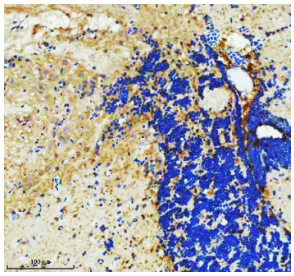
Zebrafish Actin-related protein 2 Antibody Retina IHC. Immunohistochemistry staining of FFPE zebrafish retina tissue with Zebrafish Actin-related protein 2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



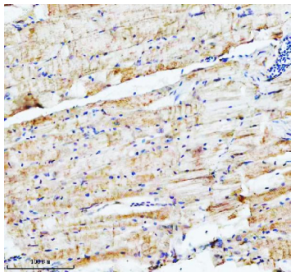
Western blot analysis of Actin-related protein 2 protein using Zebrafish Actin-related protein 2 antibody and 1) zebrafish head 2) female zebrafish viscera, 3) male zebrafish viscera, 4) whole zebrafish 5) zebrafish embryo tissue lysate. Expected molecular weight ~45 kDa.



Zebrafish Actin-related protein 2 Antibody Kidney IHC. Immunohistochemistry staining of FFPE zebrafish kidney tissue with Zebrafish Actin-related protein 2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Actin-related protein 2 Antibody Brain IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Zebrafish Actin-related protein 2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Actin-related protein 2 Antibody Skeletal Muscle IHC. Immunohistochemistry staining of FFPE zebrafish skeletal muscle tissue with Zebrafish Actin-related protein 2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Actin-related protein 2 antibody recognizes Actin-related protein 2, also known as Actr2 or Arp2, a core subunit of the Arp2/3 complex responsible for nucleating branched actin filament networks in Danio rerio. Arp2 is encoded by the actr2 gene on zebrafish chromosome 8 and is a key regulator of cytoskeletal remodeling during embryonic development. The Arp2/3 complex consists of seven subunits, with Arp2 and Arp3 forming the structural core that mimics an actin dimer to initiate new actin filament branches. In zebrafish, Arp2 is expressed strongly in rapidly shaping tissues including the developing brain, somites, neural crest, migrating cell populations, and early organ primordia. Subcellular localization studies show Arp2 enriched at the leading edge of motile cells, cortical actin networks, lamellipodia, and regions undergoing dynamic cytoskeletal rearrangement.

Actin-related protein 2 plays a central role in establishing the architecture of branched actin networks that support cell migration, adhesion, vesicular trafficking, and morphogenetic movements. Through activation by nucleation promoting factors such as the WAVE and WASP families, Arp2 enables the formation of dendritic actin arrays critical for membrane protrusion and tissue morphogenesis. In zebrafish embryos, Arp2 mediated actin polymerization contributes to epiboly, gastrulation, neural tube formation, and collective cell migration. Disruption of actr2 or upstream regulators often leads to severe developmental defects including impaired convergence and extension, abnormal neural crest migration, and defective epithelial remodeling.

Beyond early embryogenesis, Actr2 functions in pathways that govern axon guidance, synapse formation, and organ shaping. Arp2 enriched actin dynamics enable axonal outgrowth, dendritic branching, and intracellular transport of signaling molecules in developing neurons. In muscle and cardiac tissues, regulated actin polymerization supports sarcomere organization and mechanical stability. Arp2 also participates in immune related functions, including leukocyte migration and phagocytosis, where rapid cytoskeletal remodeling is required for host defense. Isoform variation may occur through alternative promoter usage or regulation by tissue specific transcription factors, influencing developmental expression patterns and subcellular targeting.

Because zebrafish embryos rely heavily on actin driven morphogenetic processes, alterations in Arp2 activity can result in highly penetrant phenotypes. Experimental knockdowns or mutations in actr2 disrupt tissue integrity, reduce cell motility, and interfere with signaling pathways such as Wnt, FGF, and chemokine regulated migration. These defects highlight the importance of Arp2 dependent actin branching in coordinating mechanical and biochemical cues during tissue formation. Zebrafish models also utilize Arp2 as a marker for studying cytoskeletal responses to toxicants, pharmaceuticals, pathogen exposure, and environmental stressors.

This Zebrafish Actin-related protein 2 antibody is suitable for detecting Actr2/Arp2 in research focused on cytoskeletal dynamics, cell migration, morphogenesis, neural development, immune cell behavior, and actin polymerization pathways. It supports studies examining Arp2/3 complex function, WAVE-WASP signaling, epithelial remodeling, and developmental responses to genetic or environmental perturbation. NSJ Bioreagents provides this reagent within its zebrafish and developmental cell biology antibody portfolio.

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

Application Notes

Optimal dilution of the Zebrafish Actin-related protein 2 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish ARP2/Actr2 recombinant protein (amino acids M1-R394) was used as the immunogen for the Zebrafish Actin-related protein 2 antibody.

Storage

After reconstitution, the Zebrafish Actin-related protein 2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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