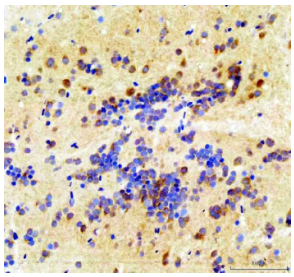
Zebrafish Csnk2b Antibody / Casein kinase 2 beta (RZ1122)

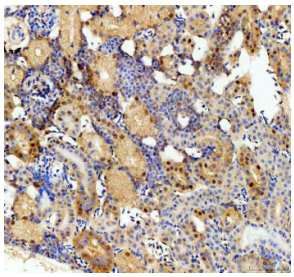
Catalog No.	Formulation	Size
RZ1122	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

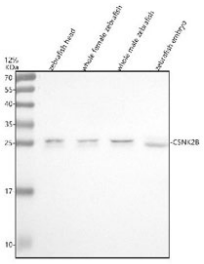
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q91398
Applications	Western Blot : 0.5-1 ug/ml Immunohistochemistry (FFPE) : 2-5 ug/ml
Limitations	This Zebrafish Csnk2b antibody is available for research use only.



IHC staining of FFPE zebrafish brain tissue with Zebrafish Csnk2b antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE zebrafish kidney tissue with Zebrafish Csnk2b antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis of Csnk2b protein using Zebrafish Csnk2b antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~25 kDa.

Description

Zebrafish (Danio rerio) Csnk2b antibody detects Csnk2b, the beta regulatory subunit of Casein kinase 2 (CK2), a highly conserved serine/threonine kinase complex involved in cell proliferation, survival, differentiation, and signal transduction. In zebrafish, the csnk2b gene encodes Casein kinase 2 beta, a multifunctional protein that forms part of the CK2 holoenzyme and modulates substrate specificity, enzymatic stability, and assembly of the active kinase complex. CK2 participates in numerous pathways controlling transcription, chromatin structure, cytoskeletal organization, and metabolic regulation, making Zebrafish Csnk2b antibody reagents valuable tools for developmental and molecular biology research.

Csnk2b acts as a regulatory scaffold that binds and stabilizes CK2 catalytic subunits (Csnk2a isoforms), facilitating proper enzyme conformation and activity. Beyond structural roles, Casein kinase 2 beta influences substrate recognition through protein-protein interactions that help recruit specific signaling molecules. These functions enable CK2 to regulate diverse developmental processes, including axis formation, neural patterning, and early organogenesis. In zebrafish embryos, csnk2b is expressed in proliferative and differentiating tissues such as the brain, somites, heart field, and developing epithelia, reflecting its broad influence on growth and morphogenesis.

CK2-mediated phosphorylation affects hundreds of substrates across cellular pathways. These include transcription factors, chromatin remodelers, apoptosis regulators, cytoskeletal proteins, and components of major signaling cascades such as Wnt, Hedgehog, and NF-kappaB pathways. By contributing to the assembly and stability of the CK2 enzyme complex, Csnk2b indirectly shapes transcriptional programs, cell cycle progression, and cellular stress responses. In zebrafish, Casein kinase 2 beta is particularly important for neural development, where CK2 activity influences progenitor maintenance, neuronal differentiation, and axon guidance.

In addition to its nuclear and cytoplasmic signaling roles, Csnk2b participates in regulating cell adhesion and cytoskeletal organization. It interacts with actin-associated proteins and contributes to epithelial integrity, cell polarity, and tissue architecture. Proper CK2 function supports coordinated movement of cells during morphogenesis, enabling processes such as neural tube shaping, branchial arch formation, and myocardial organization. Altered regulation of Csnk2b or CK2 activity may disrupt these coordinated developmental processes, underscoring its functional importance.

Subcellular localization of Casein kinase 2 beta includes the cytoplasm, nucleus, and membrane-proximal regions, depending on developmental stage and signaling context. Csnk2b interacts with catalytic CK2 subunits, transcriptional regulators, scaffolding proteins, and additional signaling mediators that tune kinase activity and substrate selection. Conservation of CK2 structure and function across vertebrates highlights zebrafish as a strong model for dissecting its developmental and molecular mechanisms.

A Zebrafish Csnk2b antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining kinase signaling, transcriptional regulation, cytoskeletal organization, and developmental patterning. This antibody targets Csnk2b for studies involving CK2 complex assembly, signal transduction, and vertebrate developmental biology. NSJ Bioreagents provides the Zebrafish Csnk2b antibody to support research in kinase regulation and embryonic development.

Application Notes

Optimal dilution of the Zebrafish Csnk2b antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Csnk2b recombinant protein (amino acids M1-R215) was used as the immunogen for the Zebrafish Csnk2b antibody.

Storage

After reconstitution, the Zebrafish Csnk2b 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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