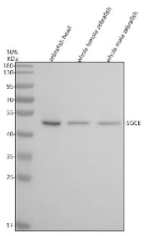
Zebrafish Sgce Antibody / Epsilon-sarcoglycan (RZ1094)

Catalog No.	Formulation	Size
RZ1094	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
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6DHH1
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Sgce antibody is available for research use only.



Western blot analysis of Sgce protein using Zebrafish Sgce antibody and 1) zebrafish head, 2) whole female zebrafish and 3) whole male zebrafish tissue lysate. Predicted molecular weight ~50 kDa.

Description

Zebrafish (Danio rerio) Sgce antibody detects Epsilon-sarcoglycan, a transmembrane component of the sarcoglycan complex that contributes to muscle membrane stability, cytoskeletal organization, and mechanotransduction. In zebrafish, the sgce gene encodes a conserved protein that localizes to the sarcolemma of skeletal, cardiac, and smooth muscle cells. As part of the dystrophin glycoprotein complex, Epsilon-sarcoglycan supports structural integrity during muscle contraction, linking the extracellular matrix to the intracellular cytoskeleton. These essential functions make Epsilon-sarcoglycan antibody reagents valuable tools for studying muscle development, membrane mechanics, and dystroglycan associated pathways.

Sarcoglycans form a multi subunit complex consisting of alpha, beta, gamma, delta, and epsilon family members, each contributing to muscle cell resilience against mechanical stress. Epsilon-sarcoglycan differs from other sarcoglycans by its broader expression profile, extending beyond muscle tissue to components of the nervous system and smooth muscle containing organs. In zebrafish embryos, sgce expression is observed in somites, developing heart tissue, craniofacial musculature, and regions undergoing active morphological changes. These patterns align with its role in maintaining membrane cohesion and coordinating cytoskeletal structures during rapid developmental transitions.

Functionally, Epsilon-sarcoglycan interacts with dystrophin associated proteins and extracellular matrix components to support membrane anchoring and signal transduction. Disruption of sgce expression in vertebrate systems leads to defects in muscle integrity, altered sarcolemmal architecture, and increased susceptibility to mechanical injury. In zebrafish, such disruptions can manifest as impaired motility, abnormal muscle fiber morphology, and compromised cardiac function. These phenotypes highlight the protein's conserved mechanical and structural roles across vertebrates.

Beyond mechanical support, Epsilon-sarcoglycan contributes to signaling pathways that regulate calcium handling, cytoskeletal remodeling, and cellular survival. Its position within the dystrophin associated complex allows it to modulate intracellular responses to mechanical load, influencing pathways associated with muscle adaptation and stress response. The protein's involvement in these networks makes zebrafish an advantageous model for investigating molecular mechanisms underlying membrane stabilization and muscular dystrophy related processes.

Epsilon-sarcoglycan also exhibits expression in neuronal tissues, where it may contribute to membrane organization or synaptic structure. Although its neural functions remain less defined than its muscular roles, expression studies across vertebrates suggest participation in neurodevelopmental pathways that intersect with cytoskeletal organization and membrane signaling. Zebrafish models provide opportunities to explore these emerging roles due to their transparent embryos and well characterized nervous system.

A Zebrafish Sgce antibody is suitable for research applications such as immunohistochemistry, western blotting, and related assays examining sarcolemmal protein organization and muscle development. This reagent detects endogenous Sgce without implying epitope mapping or literature validated specificity. NSJ Bioreagents provides the Zebrafish Sgce antibody to support studies in muscle biology, membrane integrity, cytoskeletal regulation, and vertebrate developmental physiology.

Application Notes

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

Immunogen

An E.coli-derived zebrafish Sgce recombinant protein (amino acids V14-E384) was used as the immunogen for the Zebrafish Sgce antibody.

Storage

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