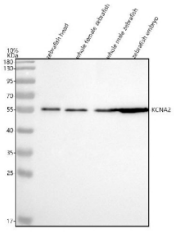
Zebrafish Kv1.2 Antibody / Kcna2a (RZ1151)

Catalog No.	Formulation	Size
RZ1151	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	E7F8M2
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Kv1.2 antibody is available for research use only.



Western blot analysis of Kv1.2/Kcna2a protein using Zebrafish Kv1.2 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~57 kDa.

Description

The Kv1.2 protein in zebrafish is a voltage-gated potassium channel subunit encoded by the kcna2a and kcna2b genes, which are paralogs resulting from the teleost-specific whole genome duplication. Kv1.2 belongs to the Shaker-related (Kv1) family of potassium channels, which play critical roles in regulating membrane excitability in neurons and other excitable cells.

Kv1.2 forms tetrameric channel complexes, either as homotetramers or heterotetramers with other Kv1 subunits, to mediate delayed rectifier potassium currents. These channels open in response to membrane depolarization, allowing K+ ions to flow out of the cell, thereby repolarizing the membrane and shaping action potentials.

In zebrafish, kcna2a and kcna2b are expressed in the central nervous system (CNS), particularly during early development, suggesting roles in neuronal differentiation, patterning, and excitability. Functional studies in zebrafish have shown that perturbations in Kv1.2 expression or function can lead to abnormal neural activity and motor behaviors, highlighting its importance in the maturation and function of the nervous system.

Kv1.2 is also a target for pharmacological research, as dysfunction in Kv1.2 channels in humans is associated with disorders such as episodic ataxia, epilepsy, and neuromyotonia. Zebrafish models expressing human Kv1.2 variants or subjected to gene knockdowns provide valuable platforms for studying disease mechanisms and for high-throughput drug screening.

Application Notes

Optimal dilution of the Zebrafish Kv1.2 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Kv1.2/Kcna2a recombinant protein (amino acids E437-V493) was used as the immunogen for the Zebrafish Kv1.2 antibody.

Storage

After reconstitution, the Zebrafish Kv1.2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.