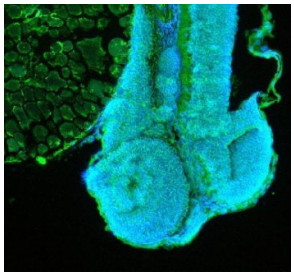
Zebrafish GNAT2 Antibody / Cone Transducin Alpha Antibody (RZ1398)

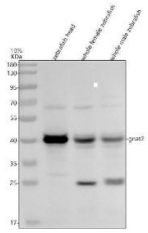
Catalog No.	Formulation	Size
RZ1398	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 mL distilled water to yield a final antibody concentration of 500 ug/mL.
UniProt	Q90WX5
Applications	Western blot: 0.5-1ug/ml Immunofluorescence: 5ug/ml
Limitations	This Zebrafish GNAT2 Antibody / Cone Transducin Alpha Antibody is available for research use only.



Zebrafish GNAT2 Antibody IF. Immunofluorescent staining of paraffin-embedded zebrafish embryo tissue using Zebrafish GNAT2 Antibody / Cone Transducin Alpha Antibody demonstrates green fluorescence throughout developing ocular and embryonic tissue compartments. The staining pattern is consistent with expression of GNAT2, a cone photoreceptor-specific G protein alpha subunit that functions in visual phototransduction and cone-mediated light signaling. GNAT2 is widely used as a marker of cone photoreceptor differentiation, retinal development, and visual system maturation in zebrafish. HIER was performed using EDTA buffer prior to staining. Tissue sections were blocked with 10% goat serum and incubated with primary antibody at 5 ug/ml overnight at 4C. DyLight-488-conjugated goat anti-rabbit IgG was used as the secondary antibody (green), and nuclei were counterstained with DAPI (blue). The image supports detection of GNAT2 expression in developing zebrafish embryonic tissues by immunofluorescence.



Zebrafish GNAT2 Antibody WB. Western blot analysis of zebrafish head tissue lysate (lane 1), whole female zebrafish tissue lysate (lane 2), and whole male zebrafish tissue lysate (lane 3) using Zebrafish GNAT2 Antibody / Cone Transducin Alpha Antibody demonstrates a prominent immunoreactive band at approximately 40 kDa, consistent with the predicted molecular weight of GNAT2. GNAT2 is a cone photoreceptor-specific G protein alpha subunit that functions in visual phototransduction by coupling activated cone opsins to downstream signaling pathways required for color vision and daylight vision. The observed expression pattern supports detection of GNAT2 in zebrafish tissues by western blot analysis. Additional lower molecular weight bands are present in some samples and may represent degradation products, alternatively processed forms, or nonspecific reactivity. Thirty micrograms of protein were loaded per lane under reducing conditions. Predicted molecular weight: approximately 40 kDa.

Description

Zebrafish GNAT2 Antibody / Cone Transducin Alpha Antibody detects GNAT2, the alpha subunit of cone transducin, a specialized heterotrimeric G protein that plays an essential role in visual phototransduction within cone photoreceptor cells. GNAT2 functions downstream of cone opsins to convert light-induced photoreceptor activation into intracellular signaling events that ultimately generate visual perception. Because cone photoreceptors mediate color vision and daylight vision, GNAT2 is widely recognized as an important marker of cone photoreceptor differentiation, retinal development, and visual system function in zebrafish.

GNAT2 belongs to the family of guanine nucleotide-binding proteins that couple activated photopigments to downstream signaling pathways. Upon photon absorption by cone opsins, GNAT2 becomes activated through nucleotide exchange and initiates signaling cascades that regulate cyclic nucleotide levels within photoreceptor cells. This process contributes to the conversion of light stimuli into electrical signals that can be transmitted through the retina and interpreted by the central nervous system.

In zebrafish, GNAT2 expression is primarily associated with retinal cone photoreceptors and is commonly used as a marker of cone cell identity and maturation. The zebrafish visual system contains multiple cone subtypes and serves as an important model for studying retinal development, photoreceptor specification, visual signaling pathways, and mechanisms of vision-related disease. Because zebrafish embryos develop externally and possess optically accessible eyes, GNAT2 is frequently examined in developmental and functional studies of the vertebrate retina.

GNAT2 also serves as a valuable target in investigations of photoreceptor degeneration, retinal injury, and inherited visual disorders. Altered GNAT2 function can disrupt normal phototransduction and impair cone-mediated vision. Consequently, the protein is often evaluated in studies examining retinal health, visual performance, regenerative biology, and molecular pathways that support photoreceptor survival and function.

Beyond its role in visual signal transduction, GNAT2 is widely used as a cellular marker for identifying cone photoreceptors within complex retinal tissues. Researchers frequently assess GNAT2 expression when characterizing retinal differentiation, monitoring cone cell populations, or evaluating experimental models of visual system development. The highly specialized expression pattern of GNAT2 makes it particularly useful for studies focused on cone biology and retinal organization.

Zebrafish GNAT2 Antibody / Cone Transducin Alpha Antibody is useful for researchers studying retinal development, photoreceptor biology, visual signal transduction, cone differentiation, vision disorders, and vertebrate eye development. Applications may include immunohistochemistry, immunofluorescence, western blotting, and other protein expression analyses when supported by validation data. As a key mediator of cone phototransduction, GNAT2 remains an important target for understanding the molecular mechanisms that govern vision and retinal function.

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

Application Notes

The optimal working dilution of the Zebrafish GNAT2 Antibody / Cone Transducin Alpha Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish GNAT2 recombinant protein (amino acids M1-D341) was used as the immunogen for the Zebrafish GNAT2 Antibody.

Storage

After reconstitution, the Zebrafish GNAT2 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Zebrafish GNAT2 Antibody, Zebrafish Guanine Nucleotide-Binding Protein G(t) Subunit Alpha-2 Antibody, Zebrafish Cone Transducin Alpha Antibody, Zebrafish Cone Photoreceptor G Protein Antibody, Zebrafish Visual Signal Transduction Protein Antibody, Zebrafish Cone Vision Marker Antibody

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