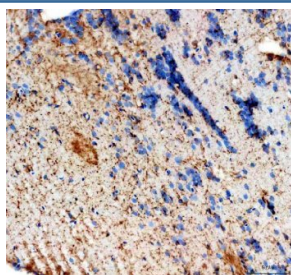


Zebrafish HMGCS1 Antibody / HMG-CoA Synthase 1 Antibody (RZ1413)

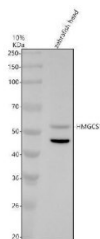
Catalog No.	Formulation	Size
RZ1413	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

[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	A0A0R4IQG1
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish HMGCS1 Antibody / HMG-CoA Synthase 1 Antibody is available for research use only.



Zebrafish HMGCS1 Antibody Brain IHC. Immunohistochemical analysis of paraffin-embedded zebrafish brain tissue using Zebrafish HMGCS1 Antibody / HMG-CoA Synthase 1 Antibody demonstrates widespread cytoplasmic HRP-DAB brown staining throughout neural tissue. The staining pattern is consistent with expression of HMGCS1, a key enzyme of the mevalonate pathway that catalyzes an early step in cholesterol and isoprenoid biosynthesis. Positive immunoreactivity within the brain is consistent with the essential requirement for cholesterol metabolism and membrane synthesis in neuronal development, cellular signaling, and maintenance of nervous system function. Heat-induced antigen retrieval was performed in EDTA buffer. Tissue sections were blocked with 10% goat serum and incubated with HMGCS1 antibody (2 ug/ml) overnight at 4°C, followed by Peroxidase Conjugated Goat Anti-rabbit IgG and DAB chromogen detection.



Zebrafish HMGCS1 Antibody Head WB. Western blot analysis of zebrafish head tissue lysate using Zebrafish HMGCS1 Antibody / HMG-CoA Synthase 1 Antibody. A distinct immunoreactive band is detected at approximately 53 kDa, corresponding closely to the expected molecular weight of HMGCS1. HMGCS1 is a key cytosolic enzyme of the mevalonate pathway that catalyzes the formation of HMG-CoA, an essential intermediate in cholesterol and isoprenoid biosynthesis. The detected band supports expression of endogenous HMGCS1 in zebrafish head tissue and demonstrates the utility of this antibody for western blot analysis. Electrophoresis was performed on a 10% SDS-PAGE gel under reducing conditions using zebrafish head lysate. Membranes were blocked with 5% non-fat milk/TBS and incubated with rabbit anti-HMGCS1 antibody at 0.5 ug/ml overnight at 4Â°C, followed by goat anti-rabbit IgG-HRP secondary antibody and ECL detection using the Tanon 5200 imaging system. Predicted molecular weight: ~58 kDa. Observed molecular weight: ~53 kDa.

Description

Zebrafish HMGCS1 Antibody / HMG-CoA Synthase 1 Antibody recognizes HMGCS1, a cytosolic enzyme that catalyzes the condensation of acetyl-CoA and acetoacetyl-CoA to form 3-hydroxy-3-methylglutaryl-CoA (HMG-CoA). This reaction represents a key early step in the mevalonate pathway, a highly conserved metabolic pathway responsible for the biosynthesis of cholesterol, isoprenoids, and numerous other essential cellular molecules. Because the mevalonate pathway supplies intermediates required for membrane formation, protein prenylation, and cellular signaling, HMGCS1 occupies an important position in cellular metabolism and growth regulation.

Zebrafish HMGCS1 Antibody is valuable for studying cholesterol biosynthesis and metabolic regulation during vertebrate development. Proper control of sterol production is essential for membrane integrity, embryonic growth, tissue differentiation, and cellular homeostasis. Alterations in mevalonate pathway activity can influence developmental processes, cellular proliferation, and responses to metabolic stress. As a result, HMGCS1 serves as an important marker for investigations of lipid metabolism and developmental physiology in zebrafish models.

Zebrafish HMGCS1 Antibody is also useful for examining the production of isoprenoid intermediates that support numerous cellular functions. Products of the mevalonate pathway contribute to protein prenylation, intracellular trafficking, signal transduction, and regulation of cell survival pathways. Through its role in generating HMG-CoA, HMGCS1 indirectly influences multiple downstream biological processes that affect cell growth, differentiation, and communication. These functions have made HMGCS1 an important target for studies of metabolic signaling and cellular regulation.

Zebrafish HMGCS1 Antibody supports research involving lipid metabolism, cholesterol biosynthesis, developmental biology, and metabolic disease mechanisms. Because zebrafish provide a powerful vertebrate model for investigating metabolic pathways in vivo, analysis of HMGCS1 expression can help researchers better understand the molecular regulation of sterol synthesis and energy metabolism during development and disease. The strong conservation of the mevalonate pathway across vertebrate species further enhances the value of zebrafish for translational metabolic research.

Zebrafish HMGCS1 Antibody is additionally relevant for studies examining the relationship between metabolism and cellular signaling. Changes in HMGCS1 activity can influence the availability of metabolites required for membrane dynamics, growth factor signaling, and intracellular communication. Consequently, HMGCS1 remains an important biomarker for investigations of cholesterol metabolism, mevalonate pathway regulation, developmental processes, and vertebrate metabolic biology.

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 HMGCS1 Antibody / HMG-CoA Synthase 1 Antibody should be determined

empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish HMGCS1 recombinant protein (amino acids Q53-D475) was used as the immunogen for the Zebrafish HMGCS1 Antibody.

Storage

After reconstitution, the Zebrafish HMGCS1 Antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.

Alternate Names

Zebrafish HMGCS1 Antibody, Zebrafish HMG-CoA Synthase 1 Antibody, Zebrafish 3-Hydroxy-3-Methylglutaryl-CoA Synthase 1 Antibody, Zebrafish Cytosolic HMG-CoA Synthase Antibody, Zebrafish Mevalonate Pathway Enzyme Antibody, Zebrafish Cholesterol Biosynthesis Enzyme Antibody