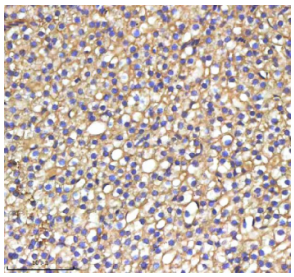
Zebrafish Srebf1 Antibody / Sterol regulatory element-binding protein 1 (RZ1315)

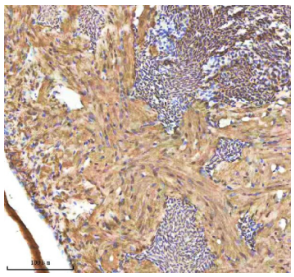
Catalog No.	Formulation	Size
RZ1315	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	A6XLD8
Localization	Cytoplasm (ER, Golgi, Vesicles), Nucleus
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Srebf1 antibody is available for research use only.



Zebrafish Srebf1 Antibody Liver Tissue IHC. Immunohistochemistry staining of zebrafish Srebf1 protein using Zebrafish Srebf1 antibody, HRP-labeled secondary and DAB substrate. Srebf1 was detected in a paraffin-embedded section of zebrafish liver tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Srebf1 Antibody Heart Tissue IHC. Immunohistochemistry staining of zebrafish Srebf1 protein using Zebrafish Srebf1 antibody, HRP-labeled secondary and DAB substrate. Srebf1 was detected in a paraffin-embedded section of zebrafish heart tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish Srebf1 antibody targets Sterol regulatory element-binding protein 1 (Srebf1), a membrane-bound transcription factor that functions as a master regulator of lipid biosynthesis and metabolic gene expression. In zebrafish, also known as Danio rerio, Srebf1 controls the transcription of genes involved in fatty acid synthesis, triglyceride production, and phospholipid metabolism, linking nutrient availability to metabolic adaptation. Srebf1 is synthesized as an inactive precursor anchored in the endoplasmic reticulum membrane and undergoes regulated proteolytic cleavage to release an active N-terminal transcription factor that translocates to the nucleus. This regulated activation mechanism positions Srebf1 as a central sensor and effector of cellular lipid status.

Functionally, Srebf1 plays a critical role in maintaining lipid homeostasis during development and in metabolically active tissues. In zebrafish embryos, Srebf1 expression is detected during early developmental stages, reflecting the importance of lipid synthesis for membrane biogenesis, energy storage, and organ formation. In later stages and adult zebrafish, Srebf1 is highly expressed in tissues such as liver, intestine, adipose tissue, and muscle, where lipid metabolism is tightly regulated. A Zebrafish Srebf1 antibody supports studies examining metabolic regulation, lipid biosynthesis, and nutrient-responsive transcriptional programs in Danio rerio.

Zebrafish has emerged as a powerful model for studying metabolic disease and lipid biology due to conserved regulatory pathways and experimental accessibility. Altered Srebf1 activity in zebrafish has been associated with changes in lipid accumulation, hepatic steatosis-like phenotypes, and disrupted energy balance. These observations highlight the conserved role of Srebf1 in coordinating lipid synthesis with systemic metabolic demands. A Zebrafish Srebf1 antibody enables analysis of Srebf1 expression dynamics and regulatory responses under developmental, nutritional, and metabolic stress conditions.

From a signaling and disease-relevance perspective, Srebf1 is extensively studied in mammals for its involvement in obesity, insulin resistance, fatty liver disease, and dyslipidemia. Zebrafish Srebf1 provides a conserved comparative system for investigating how lipid-regulatory transcription factors contribute to metabolic disorders and adaptive responses. Srebf1 activity intersects with insulin signaling, nutrient-sensing pathways, and hormonal regulation, integrating multiple inputs to fine-tune lipid metabolic gene expression.

At the molecular level, zebrafish Srebf1 is encoded by the srebf1 gene and produces a large precursor protein of approximately 1100 amino acids, consistent with vertebrate Srebf family members. The protein contains a basic helix-loop-helix leucine zipper DNA-binding domain within its N-terminal region, which mediates sequence-specific binding to sterol regulatory elements following activation. Regulation of Srebf1 involves controlled intracellular trafficking, proteolytic processing, and transcriptional feedback mechanisms. A Zebrafish Srebf1 antibody supports research applications focused on lipid metabolism, metabolic regulation, and transcriptional control in zebrafish, with NSJ Bioreagents providing reagents intended for research use.

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

Application Notes

Optimal dilution of the Zebrafish Srebf1 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Srebf1 recombinant protein (amino acids H20-L1096) was used as the immunogen for the Zebrafish Srebf1 antibody.

Storage

After reconstitution, the Zebrafish Srebf1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.