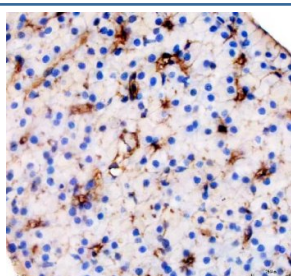


Zebrafish Vitamin D Binding Protein Antibody / VDBP (RZ1327)

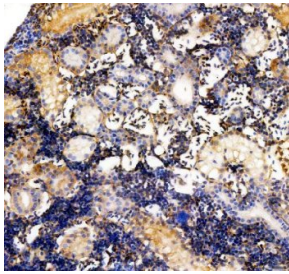
Catalog No.	Formulation	Size
RZ1327	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	A0A0R4ITN2
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Vitamin D Binding Protein Antibody / VDBP is available for research use only.



Zebrafish Vitamin D Binding Protein Antibody Liver IHC. Immunohistochemistry staining of FFPE zebrafish liver tissue using Zebrafish Vitamin D Binding Protein Antibody demonstrates distinct cytoplasmic HRP-DAB brown staining within scattered hepatic cell populations. The staining pattern is consistent with expression of Vitamin D Binding Protein (VDBP), also known as Group-Specific Component (GC), a multifunctional plasma glycoprotein involved in vitamin D metabolite transport, actin scavenging, and immune regulation. Positive staining is observed within liver-associated cellular compartments, consistent with the established role of hepatic tissue as a major site of VDBP synthesis and secretion. Heat mediated antigen retrieval was performed in EDTA buffer. Primary antibody was incubated overnight at 4°C followed by detection using a peroxidase-conjugated goat anti-rabbit secondary antibody and DAB chromogen.



Zebrafish Vitamin D Binding Protein Antibody Kidney IHC. Immunohistochemistry staining of FFPE zebrafish kidney tissue using Zebrafish Vitamin D Binding Protein Antibody demonstrates moderate cytoplasmic HRP-DAB brown staining within renal tubular epithelial structures and associated cellular compartments. The staining pattern is consistent with expression of Vitamin D Binding Protein (VDBP), also known as Group-Specific Component (GC), a multifunctional plasma glycoprotein involved in vitamin D metabolite transport, actin scavenging, and regulation of immune-associated pathways. Signal is observed throughout renal tissue regions associated with filtration, transport, and metabolic homeostasis, reflecting the established relationship between vitamin D metabolism and kidney function. Heat mediated antigen retrieval was performed in EDTA buffer. Primary antibody was incubated overnight at 4Å°C followed by detection using a peroxidase-conjugated goat anti-rabbit secondary antibody and DAB chromogen.

Description

Zebrafish Vitamin D Binding Protein Antibody / VDBP recognizes Vitamin D Binding Protein (VDBP), a multifunctional plasma glycoprotein encoded by the GC (group-specific component) gene and best known for its role in the transport and bioavailability of vitamin D metabolites. VDBP binds circulating vitamin D compounds with high affinity, including 25-hydroxyvitamin D and 1,25-dihydroxyvitamin D, and serves as the primary carrier responsible for their distribution throughout the body. Beyond vitamin D transport, VDBP participates in actin scavenging, immune regulation, inflammatory responses, and tissue homeostasis. The conservation of vitamin D signaling pathways among vertebrates has made zebrafish an increasingly valuable model for investigating the biological functions of VDBP during development, physiology, and disease.

Vitamin D signaling regulates numerous cellular processes including calcium homeostasis, skeletal development, cellular differentiation, and metabolic function. By controlling the transport and availability of vitamin D metabolites, VDBP plays an essential role in maintaining appropriate vitamin D activity within target tissues. In zebrafish, vitamin D-associated pathways contribute to bone mineralization, growth, endocrine regulation, and developmental patterning. Consequently, expression of VDBP is frequently examined in studies investigating nutrient metabolism, skeletal biology, developmental physiology, and environmental influences on vertebrate health.

In addition to its role as a carrier protein, VDBP functions as an important component of the extracellular actin scavenging system. Following tissue injury or cellular damage, actin released into the circulation can contribute to vascular dysfunction and inflammatory complications. VDBP binds extracellular actin and facilitates its clearance, helping maintain vascular integrity and tissue homeostasis. This activity has attracted considerable interest in studies examining wound healing, tissue regeneration, inflammatory disease, and stress responses. Because zebrafish possess remarkable regenerative capabilities, VDBP represents a potentially informative target for investigations of injury-associated biological pathways and recovery mechanisms.

Emerging evidence also supports broader immunological functions for VDBP. The protein has been implicated in modulation of innate immune responses, leukocyte recruitment, macrophage activation, and inflammatory signaling pathways. These activities extend the biological significance of VDBP beyond vitamin transport and position it as an important mediator linking metabolism, immunity, and tissue maintenance. Researchers studying host defense mechanisms, inflammatory regulation, and environmental stress responses frequently evaluate VDBP expression as part of broader investigations into vertebrate physiological adaptation.

At NSJ Bioreagents, we provide highly validated antibodies for developmental biology, metabolism, endocrinology, and zebrafish research applications. Zebrafish Vitamin D Binding Protein Antibody / VDBP targets a key regulator of vitamin D transport and systemic nutrient homeostasis. VDBP expression is widely studied in the context of vitamin D metabolism, skeletal development, immune regulation, tissue repair, and physiological adaptation. Continued investigation of this multifunctional carrier protein is expanding our understanding of how vitamin D-associated pathways contribute to

vertebrate development, health, and disease.

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 Vitamin D Binding Protein Antibody / VDBP should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish Vitamin D binding protein/GC recombinant protein (amino acids D20-A465) was used as the immunogen for the Zebrafish Vitamin D Binding Protein Antibody.

Storage

After reconstitution, the Zebrafish Vitamin D Binding Protein 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 VDBP Antibody, Zebrafish GC Antibody, Zebrafish Group-Specific Component Antibody, Zebrafish Vitamin D Carrier Protein Antibody, Zebrafish Vitamin D Transport Protein Antibody, Zebrafish Vitamin D Binding Globulin Antibody