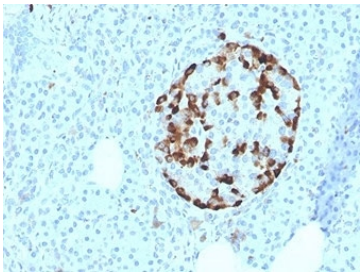
VDBP Antibody / Endocrine Vitamin D Transport Protein Antibody [clone VDBP/4481] (V9503)

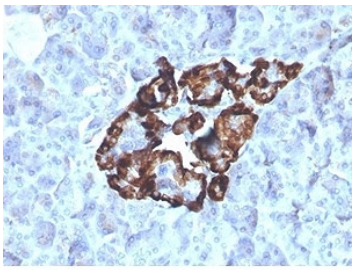
Catalog No.	Formulation	Size
V9503-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9503-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9503SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

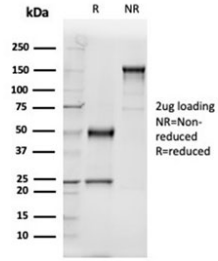
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	VDBP/4481
Purity	Protein A/G affinity
UniProt	P02774
Localization	Secreted
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This VDBP Antibody / Endocrine Vitamin D Transport Protein Antibody is available for research use only.



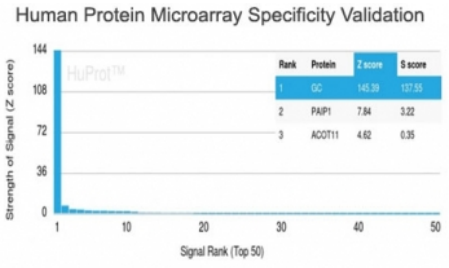
VDBP Antibody Pancreatic Islet IHC. Immunohistochemistry analysis of FFPE human pancreatic tissue stained with VDBP Antibody clone VDBP/4481 demonstrates strong cytoplasmic HRP-DAB brown staining within islet-associated endocrine cell populations, consistent with the role of Vitamin D binding protein / VDBP in endocrine metabolism, circulating transport physiology, and vitamin D-associated regulatory pathways. The concentrated staining pattern within pancreatic endocrine structures aligns with the biologic importance of vitamin D-associated signaling in metabolic homeostasis and endocrine tissue function. Tissue sections were stained using 2 ug/ml antibody in PBS for 30 min at room temperature. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



VDBP Antibody Renal Oncocytoma IHC. Immunohistochemistry analysis of FFPE human renal oncocytoma tissue stained with VDBP Antibody clone VDBP/4481 demonstrates strong granular cytoplasmic HRP-DAB brown staining within tumor-associated epithelial cell populations, consistent with the role of Vitamin D binding protein / VDBP in endocrine transport physiology and metabolic carrier-associated signaling pathways. The observed staining profile aligns with the secretory and transport-associated biology of this circulating vitamin D metabolite carrier protein. Tissue sections were stained using 2 ug/ml antibody in PBS for 30 min at room temperature. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free VDBP antibody (clone VDBP/4481) as confirmation of integrity and purity.



VDBP Antibody Microarray Specificity Validation. Analysis of a HuProt(TM) human protein microarray containing more than 19,000 full-length human proteins using clone VDBP/4481 demonstrates highly selective binding to Vitamin D binding protein / GC with minimal off-target reactivity detected across the tested human proteome. The strong enrichment of VDBP signal relative to lower-ranking proteins supports the specificity of this monoclonal antibody for studies involving endocrine transport biology, circulating carrier proteins, vitamin D metabolism, and systemic metabolic homeostasis pathways.

Description

Vitamin D binding protein (VDBP), also known as Group-specific component (GC), is a circulating endocrine transport protein involved in systemic distribution of vitamin D metabolites, extracellular actin scavenging, and metabolic homeostasis. The VDBP Antibody / Endocrine Vitamin D Transport Protein Antibody clone VDBP/4481 is positioned for highly selective detection of VDBP expression in studies involving endocrine transport biology, hepatic secretory proteins, vitamin D metabolism, and circulating carrier-associated signaling pathways.

VDBP is encoded by the GC gene on chromosome 4q13 and is synthesized predominantly by hepatocytes before secretion into plasma and extracellular fluids. The protein functions as the principal carrier of vitamin D and its metabolites within the circulation, regulating systemic transport, tissue delivery, and bioavailability of vitamin D-associated endocrine signaling molecules. Because VDBP circulates at high concentrations in serum, the protein serves as a major component of systemic metabolic transport and endocrine homeostasis pathways.

In addition to vitamin D transport, VDBP participates in extracellular actin scavenging mechanisms that help maintain tissue and vascular integrity during cellular injury and inflammatory stress. The protein may also contribute to macrophage-associated immune regulation and cytokine-responsive inflammatory signaling pathways. Altered VDBP levels have been associated with liver dysfunction, inflammatory disease states, kidney-associated disorders, metabolic abnormalities, and disruptions involving calcium and phosphate balance.

VDBP has attracted substantial interest across endocrinology, hepatology, nephrology, and metabolic disease research due to its central role in vitamin D physiology and circulating metabolite transport. Changes in VDBP abundance or binding dynamics may influence vitamin D bioavailability and endocrine signaling responses within multiple tissue systems. The protein is therefore frequently studied alongside markers of metabolic regulation, hepatic secretory function, and systemic inflammatory signaling.

The clone VDBP/4481 monoclonal antibody is further differentiated by protein microarray specificity validation performed against a HuProt(TM) array containing more than 19,000 full-length human proteins. This large-scale specificity screening approach helps evaluate potential cross-reactivity across the human proteome and is particularly valuable for abundant circulating proteins and serum-associated transport factors that may share conserved structural features with related carrier proteins. The resulting specificity profile supports selective detection of VDBP in studies where target specificity and reduced off-target recognition are important experimental considerations.

Immunohistochemical analysis using VDBP antibodies commonly demonstrates cytoplasmic staining patterns within hepatocyte-associated and epithelial tissue compartments consistent with the secretory biology of this circulating transport protein. VDBP continues to serve as an important target in studies involving endocrine metabolism, systemic transport physiology, vitamin D homeostasis, liver-associated biology, and circulating carrier protein regulation.

Additional antibodies involved in endocrine metabolism, hepatic secretory biology, vitamin D homeostasis, and circulating transport-associated signaling pathways can be explored within our Metabolism Antibodies collection.

Application Notes

Optimal dilution of the VDBP antibody should be determined by the researcher.

Immunogen

A portion of amino acids 35-175 was used as the immunogen for the VDBP antibody.

Storage

Aliquot the VDBP antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

VDBP antibody, Vitamin D binding protein antibody, GC antibody, Group-specific component antibody, Endocrine vitamin D transport protein antibody

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