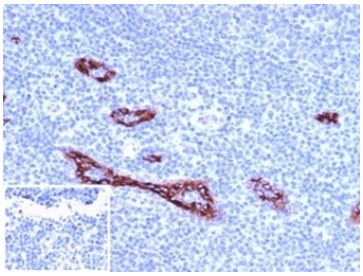
von Willebrand Factor Antibody / Weibel-Palade Body Marker Antibody [clone VWF/4106] (V8821)

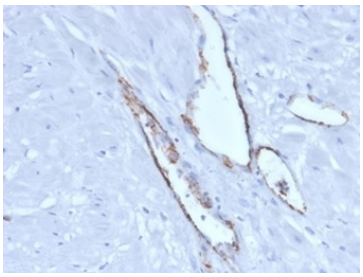
Catalog No.	Formulation	Size
V8821-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V8821-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V8821SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

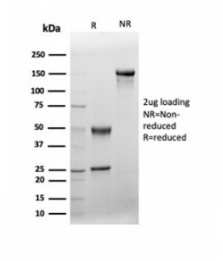
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	VWF/4106
Purity	Protein A/G affinity
UniProt	P04275
Localization	Secreted
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This von Willebrand Factor antibody is available for research use only.



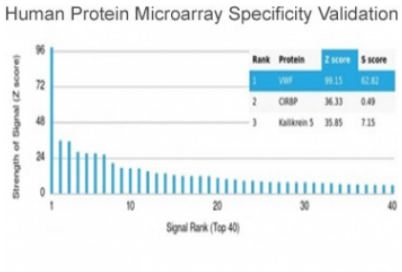
von Willebrand Factor Antibody / Weibel-Palade Body Marker Antibody. Immunohistochemistry analysis of human tonsil tissue shows HRP-DAB brown staining of endothelial cells lining vascular channels, with intracellular signal reflecting VWF localization within Weibel-Palade bodies. The staining appears as granular and focal cytoplasmic deposition along vessel linings, consistent with endothelial storage organelles within these cells. This pattern highlights both vascular structures and the subcellular distribution of VWF within endothelial compartments. Clone VWF/4106 enables visualization of vessel-associated endothelium with organelle-level detail. Negative control inset shows absence of staining when PBS is used instead of primary antibody, confirming specificity of the detected signal. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



von Willebrand Factor Antibody / Weibel-Palade Body Marker Antibody. Immunohistochemistry analysis of human pancreatic tissue shows HRP-DAB brown staining of endothelial cells lining vascular channels, with signal localized to the cytoplasm in a granular pattern consistent with VWF-containing Weibel-Palade bodies. The staining outlines elongated vessel structures within the pancreatic stroma, while intracellular deposition highlights endothelial storage organelles along the vessel lining. Clone VWF/4106 enables visualization of both vascular architecture and subcellular VWF localization within endothelial compartments. 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 von Willebrand Factor antibody (VWF/4106) as confirmation of integrity and purity.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using von Willebrand Factor antibody (clone VWF/4106). These results demonstrate the foremost specificity of the VWF/4106 mAb. Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.

Description

Von Willebrand factor (VWF) is a large secreted glycoprotein encoded by the VWF gene and synthesized primarily by vascular endothelial cells and megakaryocytes. von Willebrand Factor Antibody / Weibel-Palade Body Marker Antibody recognizes a protein that is highly concentrated within endothelial storage organelles known as Weibel-Palade bodies, making it especially valuable for studies of endothelial granule biology. VWF antibody, also referred to as von Willebrand factor antibody or factor VIII-related antigen antibody, is widely used in cell and tissue research to visualize the distinctive intracellular compartment where VWF is stored prior to secretion.

Weibel-Palade bodies are specialized, elongated secretory granules unique to endothelial cells, serving as a defining feature of this cell type at the subcellular level. VWF is the principal cargo of these organelles, and its localization produces a characteristic punctate or rod-like staining pattern that reflects the shape and distribution of these structures. von Willebrand Factor Antibody is therefore particularly effective for identifying Weibel-Palade bodies within endothelial cells, allowing direct visualization of intracellular storage compartments rather than only marking the cell as a whole.

Unlike markers that broadly label endothelial cells, VWF provides spatial resolution at the organelle level. In microscopy-based studies, this results in discrete cytoplasmic structures that can be tracked, quantified, and analyzed in relation to cellular state. The presence, number, and distribution of Weibel-Palade bodies can vary depending on endothelial activation, environmental cues, and physiological conditions. Because VWF is tightly associated with these organelles, its detection enables detailed assessment of endothelial secretory organization and intracellular architecture.

Weibel-Palade bodies play a central role in vascular biology by storing not only VWF but also additional mediators involved in inflammation and vascular homeostasis. Upon stimulation, these granules undergo regulated exocytosis,

releasing their contents into the extracellular space or onto the endothelial surface. This process links intracellular storage dynamics to functional responses such as platelet recruitment and endothelial activation. von Willebrand Factor Antibody supports investigation of these processes by providing a direct readout of granule localization and redistribution within endothelial cells.

In both cultured endothelial systems and tissue sections, VWF staining patterns often shift in response to cellular activation, mechanical stress, or pathological conditions. Redistribution of Weibel-Palade bodies, changes in granule morphology, or depletion of stored VWF can all be reflected in altered staining patterns. This makes von Willebrand Factor Antibody particularly useful for examining endothelial secretory responses, vesicle trafficking, and the relationship between intracellular organization and vascular function.

von Willebrand Factor Antibody / Weibel-Palade Body Marker Antibody is therefore especially well suited for studies focused on endothelial organelle biology. By highlighting the specific intracellular compartment where VWF is stored, it enables detailed analysis of Weibel-Palade body distribution, morphology, and dynamics. This supports research into endothelial secretion, vascular signaling, and the cellular mechanisms that regulate release of key vascular mediators.

Application Notes

Optimal dilution of the von Willebrand Factor Antibody / Weibel-Palade Body Marker Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 1800-2000 was used as the immunogen for the von Willebrand Factor Antibody / Weibel-Palade Body Marker Antibody.

Storage

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

Alternate Names

VWF Weibel-Palade body antibody, von Willebrand factor secretory granule antibody, endothelial storage granule marker antibody, VWF vesicular marker antibody, Weibel-Palade marker antibody

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