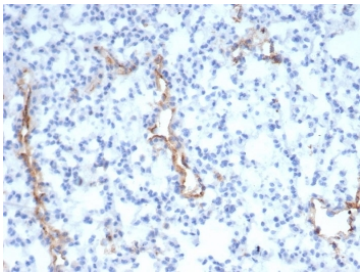
von Willebrand Factor Antibody / Platelet Adhesion Mediator Antibody [clone VWF/4105] (V4245)

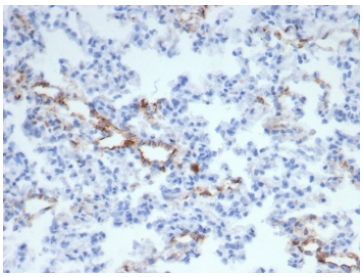
Catalog No.	Formulation	Size
V4245-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4245-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4245SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

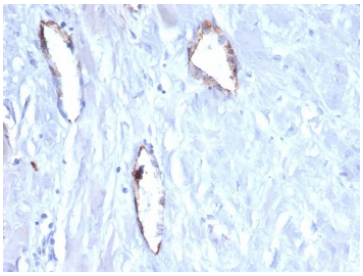
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	VWF/4105
Purity	Protein A/G affinity
UniProt	P04275
Localization	Secreted, Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 minutes at RT
Limitations	This von Willebrand Factor antibody is available for research use only.



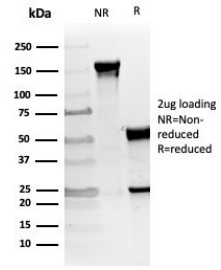
von Willebrand Factor Antibody / Platelet Adhesion Mediator Antibody. Immunohistochemistry analysis of mouse lung tissue shows HRP-DAB brown staining of endothelial cells lining vascular structures, including small vessels and capillary networks within the pulmonary parenchyma. The staining highlights vessel-associated endothelial surfaces where VWF is present, consistent with its role in mediating platelet adhesion along the vascular lining. Elongated and branching vascular profiles are clearly delineated from surrounding alveolar and interstitial cells. Clone VWF/4105 enables visualization of vascular endothelium in a pattern aligned with adhesive hemostatic function at the vessel interface. 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 / Platelet Adhesion Mediator Antibody. Immunohistochemistry analysis of rat lung tissue shows HRP-DAB brown staining of endothelial cells lining pulmonary vascular channels and capillary networks within the alveolar parenchyma. The staining highlights vessel-associated endothelial surfaces where VWF is localized, consistent with its role in platelet tethering and adhesion along the vascular lining. Thin, branching capillary structures are clearly delineated from surrounding alveolar cells and interstitial tissue. Clone VWF/4105 enables visualization of vascular endothelium in a pattern aligned with adhesive hemostatic function at the vessel interface. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE human uterus tissue with vWF/von Willebrand Factor antibody (clone VWF/4105). 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 vWF/von Willebrand Factor antibody (clone VWF/4105) as confirmation of integrity and purity.

Description

Von Willebrand factor (VWF) is a large multimeric glycoprotein encoded by the VWF gene and synthesized primarily by vascular endothelial cells and megakaryocytes. von Willebrand Factor Antibody / Platelet Adhesion Mediator Antibody recognizes a protein that plays a central role in platelet tethering and adhesion at sites of vascular injury. VWF antibody, also referred to as von Willebrand factor antibody or factor VIII-related antigen antibody, is widely used in studies of primary hemostasis, thrombus initiation, and platelet-vessel wall interactions, where its adhesive function is the primary focus.

VWF acts as a molecular bridge between exposed subendothelial structures and circulating platelets, particularly under conditions of high shear stress such as those found in arterioles and capillaries. Upon vascular damage, VWF binds to collagen within the vessel wall and undergoes conformational changes that expose binding sites for platelet receptors, including glycoprotein Ib. This interaction enables rapid platelet tethering, rolling, and stable adhesion, representing the earliest step in hemostatic plug formation. von Willebrand Factor Antibody is therefore highly relevant for detecting and studying regions where platelet adhesion is initiated and regulated.

The functional activity of VWF is closely tied to its multimeric structure, with high-molecular-weight multimers exhibiting the greatest adhesive capacity. These multimers are stored in endothelial Weibel-Palade bodies and platelet alpha-granules and are released upon activation, allowing rapid deployment at sites of injury. Once released, VWF can anchor platelets to the vessel wall and promote platelet aggregation, forming a scaffold that supports subsequent coagulation processes. This dynamic behavior links endothelial secretion, platelet recruitment, and thrombus formation into a coordinated biological response.

In addition to its role in platelet adhesion, VWF serves as a carrier protein for coagulation factor VIII, protecting it from proteolytic degradation and extending its half-life in circulation. This dual function integrates primary hemostasis with the

coagulation cascade, reinforcing the importance of VWF in maintaining vascular integrity. Alterations in VWF expression, structure, or multimer distribution can lead to bleeding disorders or thrombotic conditions, highlighting its clinical and biological significance in vascular disease.

Within experimental systems, VWF detection provides a direct link to adhesive hemostatic function. Its presence at sites of vascular disruption, along vessel surfaces, or within platelet-rich regions can reflect active or potential adhesive interactions. This makes von Willebrand Factor Antibody particularly useful in studies examining platelet recruitment, shear-dependent adhesion, thrombus formation, and vascular injury responses across a range of biological models.

von Willebrand Factor Antibody / Platelet Adhesion Mediator Antibody is especially suited for investigations centered on platelet tethering, early clot formation, and vascular adhesive mechanisms. By highlighting a protein that directly mediates platelet capture and adhesion, it supports detailed analysis of the molecular and cellular events that initiate hemostasis and shape thrombus development.

Application Notes

Optimal dilution of the von Willebrand Factor Antibody / Platelet Adhesion Mediator Antibody should be determined by the researcher.

Immunogen

A recombinant human vWF fragment protein sequence (within amino acids 845-949) was used as the immunogen for the von Willebrand Factor Antibody / Platelet Adhesion Mediator Antibody.

Storage

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

Alternate Names

VWF platelet adhesion antibody, von Willebrand factor hemostasis antibody, platelet tethering factor antibody, VWF thrombus initiation antibody, coagulation adhesion mediator antibody

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