

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human vWF-A2 (ADAMTS13-cleaved) in Western blots. This antibody detects a nascent epitope that is generated upon cleavage of recombinant human (rh) vWF-A2 domain with ADAMTS13. It does not detect intact rhvWF-A2 domain.
Source	Monoclonal Mouse IgG ₁ Clone # 490628
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	KLH-conjugated human vWF synthetic peptide Asp1596-Tyr1605 Accession # NP_000543
Formulation	Lyophilized from a 0.2 µm filtered solution in Tris and NaCl with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human vWF-A2 (Catalog # 2764-WF)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

von Willebrand Factor (vWF) is a large, multimeric glycoprotein made by endothelial cells and megakaryocytes. The pre-pro-vWF protein contains 2813 amino acids (aa), which consists of 22 aa signal peptide, 741 aa propeptide, and mature vWF monomer of 2050 aa (1-4). The pro-vWF undergoes dimerization in the endoplasmic reticulum (ER) through C-terminal "cysteine-knot" (CK) domain. The pro-vWF dimers are transported to Golgi and form multimers by forming disulfide bond in amino-terminal region of the mature form. The proteolytic processing of pro-region also occurs in Golgi. The matured vWF is stored in Weibel-Pallade bodies in endothelial cells and granules in megakaryocytes and platelets. The unusually-large vWF (ulvWF) multimers released from cells are very efficient in binding to platelets to form thrombus. The population of these highly active ulvWF multimers is controlled by a specific protease, ADAMTS13, which cleaves between residues Tyr1605 and Met1606 in the A2 domain of vWF. In the plasma, vWF appears as a series of large and intermediate multimers with molecular masses from several thousand to 500 kDa. vWF also performs hemostatic functions (3-5). In a high shear-stressed environment, vWF undergoes conformational change to expose a binding site for glycoprotein Iba. As a result, vWF facilitates aggregation of platelets. In addition to platelet binding, vWF binds coagulation factor VIII to increase the lifetime of FVIII in plasma. The purified rhvWF-A2 contains the A2 domain of vWF.

References:

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