

# VWF (G-11): sc-271409



The Power to Question

## BACKGROUND

Von Willebrand disease is a congenital bleeding disorder caused by defects in the von Willebrand factor protein (VWF). VWF is a multimeric glycoprotein that is found in endothelial cells, plasma and platelets, and it is involved in the coagulation of blood at injury sites. VWF acts as a carrier protein for Factor VIII, a cofactor required for coagulation, and it promotes platelet adhesion and aggregation. Several factors are known to stimulate the binding of VWF to platelets, including glycoprotein 1 $\beta$ , ristocetin, botrocetin, collagen, sulphatides and heparin. Of the several domains contained within VWF, the A1, A2 and A3 domains have been shown to mediate this activation. VWF is thought to undergo a variety of posttranslational modifications that influence the affinity and availability for Factor VII, including cleavage of the pro-peptide and formation of N-terminal intersubunit disulfide bonds.

## REFERENCES

1. Naiem, M., et al. 1982. The value of immunohistological screening in the production of monoclonal antibodies. *J. Immunol. Methods* 50: 145-160.
2. Wise, R.J., et al. 1991. The role of von Willebrand factor multimers and propeptide cleavage in binding and stabilization of Factor VIII. *J. Biol. Chem.* 266: 21948-21955.
3. Fischer, B.E., et al. 1996. Effect of multimerization of human and recombinant von Willebrand factor on platelet aggregation, binding to collagen and binding of coagulation Factor VIII. *Thromb. Res.* 84: 55-66.
4. Ward, C.M., et al. 1997. Binding of the von Willebrand factor A1 domain to histone. *Thromb. Res.* 86: 469-477.
5. Jenkins, P.V., et al. 1998. Molecular modeling of ligand and mutation sites of the type A domains of human von Willebrand factor and their relevance to von Willebrand's disease. *Blood* 91: 2032-2044.

## CHROMOSOMAL LOCATION

Genetic locus: VWF (human) mapping to 12p13.31.

## SOURCE

VWF (G-11) is a mouse monoclonal antibody raised against amino acids 2514-2813 mapping at the C-terminus of VWF (Von Willebrand factor) of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

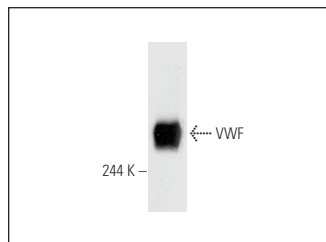
VWF (G-11) is recommended for detection of VWF of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VWF siRNA (h): sc-36828, VWF shRNA Plasmid (h): sc-36828-SH and VWF shRNA (h) Lentiviral Particles: sc-36828-V.

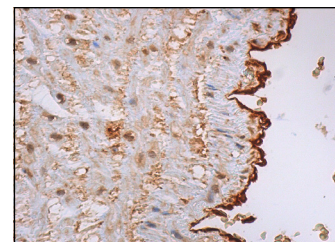
Molecular Weight of VWF: 250 kDa.

Positive Controls: human platelet extract: sc-363773 or HUV-EC-C whole cell lysate: sc-364180.

## DATA



VWF (G-11): sc-271409. Western blot analysis of VWF expression in human platelet extract.



VWF (G-11): sc-271409. Immunoperoxidase staining of formalin fixed, paraffin-embedded human umbilical cord tissue showing cytoplasmic staining of umbilical vein endothelial cells.

## SELECT PRODUCT CITATIONS

1. Laurent, C., et al. 2017. Hippocampal T cell infiltration promotes neuroinflammation and cognitive decline in a mouse model of tauopathy. *Brain* 140: 184-200.
2. Murphy, J.M., et al. 2021. Focal adhesion kinase activity and localization is critical for TNF- $\alpha$ -induced nuclear factor- $\kappa$ B activation. *Inflammation* 44: 1130-1144.
3. Murphy, J.M., et al. 2023. Nuclear FAK in endothelium: an intrinsic inhibitor of NF- $\kappa$ B activation in atherosclerosis. *Atherosclerosis* 379: 117189.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **VWF (C-12): sc-365712** for VWF antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.