



VWF (F8/44/20): sc-53465

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 1b, 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 propeptide 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.
6. Bendetowicz, A.V., et al. 1998. Binding of Factor VIII to von Willebrand factor is enabled by cleavage of the von Willebrand factor propeptide and enhanced by formation of disulfide-linked multimers. *Blood* 92: 529-538.
7. Mazurier, C., et al. 1998. Molecular genetics of von Willebrand disease. *Ann. Genet.* 41: 34-43.

CHROMOSOMAL LOCATION

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

SOURCE

VWF (F8/44/20) is a mouse monoclonal antibody raised against VWF isolated from plasma of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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.

APPLICATIONS

VWF (F8/44/20) is recommended for detection of VWF of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

1. Held-Feindt, J., et al. 2010. CX3CR1 promotes recruitment of human glioma-infiltrating microglia/macrophages (GIMs). *Exp. Cell Res.* 316: 1553-1566.
2. Held-Feindt, J., et al. 2013. The transcription factor Forkhead box P3 (FoxP3) is expressed in glioma cells and associated with increased apoptosis. *Exp. Cell Res.* 319: 731-739.
3. Krossa, S., et al. 2015. Down regulation of Akirin-2 increases chemosensitivity in human glioblastomas more efficiently than Twist-1. *Oncotarget* 6: 21029-21045.
4. Kubelt, C., et al. 2015. Epithelial-to-mesenchymal transition in paired human primary and recurrent glioblastomas. *Int. J. Oncol.* 46: 2515-2525.
5. Adamski, V., et al. 2017. Dormant glioblastoma cells acquire stem cell characteristics and are differentially affected by Temozolomide and AT101 treatment. *Oncotarget* 8: 108064-108078.
6. Kubelt, C., et al. 2020. Intratumoral distribution of lactate and the monocarboxylate transporters 1 and 4 in human glioblastoma multiforme and their relationships to tumor progression-associated markers. *Int. J. Mol. Sci.* 21: E6254.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



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.