

von Willebrand Factor GPIbM Activity

Versiti offers VWF GPIbM Activity as a measure of von Willebrand Factor platelet binding function.

von Willebrand disease (VWD) is a bleeding disorder characterized by either quantitative or qualitative defects of von Willebrand factor (VWF). Accurate measurement of VWF activity by assessment of its interaction with platelets is an essential component of the evaluation of a patient where there is concern for von Willebrand disease.

While the VWF Ristocetin Cofactor Activity (VWF: RCo) assay has been used for decades to measure VWF platelet binding activity, the assay's imprecision and poor sensitivity are significant drawbacks.¹ The VWF GPIbM Activity assay measures binding of VWF to mutant GPIIb3 without the need for ristocetin and is well correlated with the VWF:RCo assay.² The VWF GPIbM Activity assay demonstrates superior precision and sensitivity³ compared with the VWF ristocetin cofactor assay. Furthermore, it is not subject to falsely low values seen in individuals who possess the common p.D1472H polymorphism or the rare p.P1467S variant,⁴ both of which confound the accurate diagnosis of von Willebrand disease. Since discrepancies between VWF activity and VWF antigen suggest variant VWD, accurate measurement of VWF activity via the VWF GPIbM Activity assay offers an advance in the evaluation of patients where there is concern for VWD.

Indications for testing:

- Detect qualitative defects of VWF
- Identify and differentiate variant subtypes of variant VWD
- Accurate measurement of VWF platelet binding activity in patients with identified p.P1467S and/or p.D1472H polymorphism

Test method:

ELISA

Assay sensitivity and limitations:

VWF is an acute phase reactant. Levels will be elevated postoperatively, with inflammation, stress, physical activity, pregnancy, estrogen therapy and hyperthyroidism. VWF levels may be artifactually reduced as a consequence of improper sample handling. VWF activity assays should be correlated with other VWF assays and with patient clinical history to support an appropriate diagnosis. For some cases of type 2B VWD, VWF GPIbM Activity will report a higher activity level than VWF Ristocetin Cofactor Activity. Therefore, VWF GPIbM Activity results should be interpreted cautiously when monitoring perioperative therapy in patients with type 2B VWD.

Specimen requirements:

0.5 ml citrated plasma aliquot, frozen in a plastic tube.



SHIP

Shipping requirements:

Place the frozen specimen and the requisition into plastic bags, seal and place in an insulated container. Surround with at least 5 pounds of dry ice. Seal the insulated container, place into a sturdy cardboard box, and tape securely. Ship the package in compliance with your overnight carrier guidelines.

Send to:

Versiti Client Services
Hemostasis Reference Laboratory
638 N. 18th Street
Milwaukee, WI 53233
800-245-3117, ext. 6250





ORDER

Required forms:

Please complete all pages of the [requisition form](#).

CPT Codes/Billing/Turnaround time:

Test code: 1070

CPT code: For recommended CPT codes, visit the [versiti.org/test-catalog](https://www.versiti.org/test-catalog)

Turnaround time: 7 days

References:

1. Favaloro EJ, Koultts J. Laboratory assays for von Willebrand factor: relative contribution to the diagnosis of von Willebrand disease. *Pathology* 1997; 29:385-91.
2. Geisen U, Zieger B, Nakamura L, Weis A, Heiz J, Michiels JJ, Heilman C. Comparison of von Willebrand factor (VWF) activity VWF: Ac with VWF ristocetin cofactor activity VWF: RCo. *Thromb res* 2014. 134: 246-50.
3. Patzke J, Budde U, Huber A, Mendez A, Muth H, Obser T, Peerschke E, Wilkens M, Schneppenheim R. Performance evaluation and multicentre study of a von Willebrand factor activity assay based on GPIIb binding in the absence of ristocetin. *Blood Coagul Fibrinolysis* 2014; 25: 860-70.
4. Flood VH, Gill JC, Moratek PA, Christopherson P, Friedman KH, Haberichter SL, Hoffman RG, Montgomery RR. Gain-of-function GPIIb binding ELISA assay.