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**Lab Dept:** Coagulation

**Test Name:** VWD DIAGNOSTIC EVALUATION REFLEX

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***General Information***

**Lab Order Codes:** VWN

**Synonyms:** F8, Factor 8, Factor VIII, Von Willebrand Disease, Von Willebrand Factor

**CPT Codes:** 85240 – Factor VIII Activity  
0279U – VWF Collage III Binding  
85397 – VWF GPIbM Activity  
85246 – VWF Antigen  
0283U – VWD Type 2B Binding (if appropriate)  
0284U – VWD Type 2N Binding (if appropriate)  
0281U – VWF Propeptide Antigen (if appropriate)  
85247 – VWF Quantitative Multimer (if appropriate)

**Test Includes:** Factor VIII Activity, VWF Antigen, VWF GPIbM Activity, and VWF Collagen III Binding. If initial lab results indicate the need for additional testing to distinguish a variant VWD diagnosis, up to two additional tests will be reflexively performed. (Reflex Tests: VWD Type 2B Binding, VWD Type 2N Binding, VWF Propeptide Antigen, and VWF Quantitative Multimer)

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***Logistics***

**Test indications:**

- Detect quantitative or qualitative defects of VWF and related deficiency of factor VIII activity.
- Differentiate subtypes of variant VWD.
- Direct optimal utilization of confirmatory genetic testing for variant VWD.

**Lab Testing Sections:** Coagulation - Sendouts

**Referred to:** Versiti - Blood Center of Wisconsin (VRST Test: 1800)

**Phone Numbers:** MIN Lab: 612-813-6280  
STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 14 days\*, performed Monday – Saturday

**\*Due to reference lab delays, expected actual turnaround time as of July 2023 is 3-6 weeks until further notice.**

**Special Instructions:** N/A

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**Specimen**

<b>Specimen Type:</b>	Whole blood
<b>Container:</b>	Light Blue Top (Na Citrate)
<b>Draw Volume:</b>	18 mL (Minimum: 9 mL) blood
<b>Processed Volume:</b>	6 mL (Minimum: 3 mL) plasma
<b>Collection:</b>	<ul style="list-style-type: none"><li>• Patients with a hematocrit level &gt;55% must have a special tube made to adjust citrate concentration. Contact lab for a special tube.</li><li>• Do not use the first tube drawn.</li><li>• Invert tubes gently at least 4 times to mix.</li><li>• Transport immediately to the laboratory at room temperature.</li></ul>
<b>Special Processing:</b>	Lab Staff: Double spin and transfer plasma into six (6) aliquot tubes with 1 mL each (Minimum: Six (6) aliquots of 0.5 mL each) plasma per tube. Freeze at -70 degree °C within 4 hours of collection. Ship with dry ice.
<b>Patient Preparation:</b>	No Heparin for 2 days prior to testing.
<b>Sample Rejection:</b>	Unlabeled or mislabeled specimens; improper tube; hemolysis; inappropriate transport temperature.

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**Interpretive****Reference Range:**

<b>Test Name:</b>	<b>Reference Range (All ages):</b>
Factor VIII Activity	71 – 193 IU/dL
VWF Collage III Binding	50 – 203 IU/dL
VWF GPiB Activity	52 – 180 IU/dL
VFW Antigen	50 – 188 IU/dL
<b>Possible reflex tests</b>	
VWD 2B Binding	Normal
VWD 2N Binding	≥86%
VWF Propeptide Antigen	56 – 140 IU/dL
VWF Multimer	Normal

**Critical Values:** N/A

**Limitations:**

- VWF and Factor VIII are acute phase reactants. Levels will be elevated postoperatively, with inflammation, stress, physical activity, pregnancy, estrogen therapy, and hyperthyroidism.
- VWF levels may be reduced as a consequence of improper sample handling.
- 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.

**Methodology:**

Factor VIII Activity - Clotting

VWF Collage III Binding - ELISA

VWF GPIbM Activity - ELISA

VWF Antigen – ELISA

**Possible Reflex Tests:**

VWD 2B Binding – Electrophoresis

VWD 2N Binding – ELISA

VWF Propeptide Antigen – ELISA

VWF Multimer - Electrophoresis

**References:**

[Versiti \(formerly Blood Center of Wisconsin\)](#) July 2023

**Updates:**

02/01/2022: Initial entry

07/17/2023: Updated minimum volume processing instructions, updated link to reference lab site, added temporary note regarding delayed turnaround time.