Lab Dept: Coagulation

Test Name: RISTOCETIN COFACTOR

General Information

Lab Order Codes: RISTM

Synonyms: Willebrand Factor Activity; VW Factor Assay

CPT Codes: 85245 - Factor VIII vW Factor, Ristocetin cofactor

Test Includes: Ristocetin cofactor resulted as a %.

Logistics

Test Indications: Aid with the differential diagnosis of hemophilia and type of von Willebrand disease.

Lab Testing Sections: Coagulation (Minneapolis Campus)

Phone Numbers:
- Minneapolis: 612-813-6280
- St. Paul: 651-220-6550

Test Availability: Twice Weekly (Tuesday and Friday)

Turnaround Time: 3 – 5 Days

Special Instructions: See Patient Preparation Deliver immediately to the laboratory at room temperature.

Specimen

Specimen Type: Whole blood

Container: Light Blue (Buffered Na Citrate 3.2%) top tube

Draw Volume: 2.7 mL blood

Processed Volume: 0.9 mL plasma
**Collection:**
- A clean venipuncture is essential, avoid foaming.
- Entire sample must be collected with single collection, pooling of sample is unacceptable.
- Capillary collection is unacceptable.
- Patient’s with a hematocrit level >55% must have a special tube made to adjust for the hematocrit; contact lab for a special tube.
- Mix thoroughly by gentle inversion. Deliver immediately to the laboratory at room temperature via courier or pneumatic tube.

**Off campus collections:**
- Must be tested within 4 hours.
- Do not refrigerate.
- If not received in our lab within 4 hours of collection, sample must be centrifuged and “platelet-poor plasma removed from cells and transferred to an aliquot tube being careful not to disturb the cell layer. Centrifuge the plasma a second time and transfer into a clean aliquot tube being careful not to include any residual platelets on the bottom of the tube. Freeze at -20°C and deliver to the lab on dry ice within 2 weeks.
*Validation of your lab’s centrifuge for platelet poor plasma is required.*

**Special Processing:**
Lab Staff: All testing will be performed in Minneapolis.

St. Paul Lab: Send whole blood specimens to Mpls for processing via courier. Must be processed within 4 hours of collection. Contact Mpls prior to sending.

Mpls Lab: Spin sample collected in blue top tube for 5 minutes on the Stat Spin centrifuge, remove plasma and transfer to a 4 mL BCS sample cup. Spin plasma again for 5 minutes in the Stat Spin Centrifuge. Transfer plasma to a new BCS sample cup for analysis leaving approximately 200 uL in the bottom of the original cup to discard. Store at frozen (-70 degrees C) temperatures if not run immediately.

**Patient Preparation:**
No Heparin for 2 days prior to testing.

**Sample Rejection:**
Improper tube; clotted specimen; underfilled tube; mislabeled or unlabeled specimens

**Interpretive**

<table>
<thead>
<tr>
<th>Reference Range:</th>
<th>Age</th>
<th>Healthy Preemie Range (%)</th>
<th>Full Term Infant Range (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day 1</td>
<td>78 – 210%</td>
<td>86 – 220%</td>
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<tr>
<td></td>
<td>Day 5</td>
<td>72 – 219%</td>
<td>83 – 197%</td>
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<td></td>
<td>Day 30</td>
<td>66 – 216%</td>
<td>69 – 187%</td>
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<td>Day 90</td>
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<td>Day 180</td>
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<tr>
<td></td>
<td>75 – 184%</td>
<td>84 – 162%</td>
<td>54 – 158%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Childhood Range (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 5 years</td>
<td>60 – 120%</td>
</tr>
<tr>
<td>6 – 10 years</td>
<td>44 – 144%</td>
</tr>
<tr>
<td>11 – 16 years</td>
<td>46 – 153%</td>
</tr>
<tr>
<td><strong>Adult</strong></td>
<td>50 – 158%</td>
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</tbody>
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**Critical Values:** N/A

**Limitations:** N/A

**Methodology:** Measurement of agglutination of formalin-fixed platelets by patient’s plasma with ristocetin as compared to agglutination produced by a standard plasma used to prepare a curve.

**References:** Harmening DH (1997) Clinical Hematology and Fundamentals of Hemostasis

**Updates:**
- 5/24/2010: Tubing of patient specimens is no longer prohibited.
- 12/14/2010: Processing information updated.
- 9/15/2014: Added off campus collection info.