
Lab Dept: Coagulation

Test Name: LUPUS INHIBITOR DETECTION

General Information

Lab Order Codes: LUPI, LIM

Synonyms: Lupus Anticoagulant, Lupus Inhibitor

CPT Codes: 85612 – Dilute Russell’s Viper Venom Test (DRVVT)
85613 – (DRVVT MIX), LIM

Test Includes: LA1 Screening Test, LA2 Confirmatory test, LA1/LA2 Ratio

Logistics

Test Indications: Ordered as a result of an elevated PTT that does not correct with the addition of Pooled Normal Plasma. Ordered separately to monitor the presence of a persistent Lupus Inhibitor.

Lab Testing Sections: Coagulation (Minneapolis Campus)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 3 – 5 days (Performed twice weekly, Tuesday and Thursday)

Special Instructions: Deliver immediately to the laboratory at room temperature. Indicate when specimen is drawn from a line or a heparin lock.

Specimen

Specimen Type: Whole blood

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

Draw Volume: 2.7 mL (Minimum: 2.7 mL)

Processed Volume: Same as Draw Volume

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 Minneapolis Lab for processing via courier. Must be processed within 4 hours of collection. Contact Minneapolis Lab prior to sending.

Minneapolis Lab: Centrifuge specimen, remove plasma sample taking care not to disturb buffy coat. Perform a second spin after removing plasma from the original collection containers. Aliquot into two screw-top plastic vials (Minimum: 0.5 mL in each tube). Store frozen at -70degrees C.

Patient Preparation:

None

Sample Rejection:

Improper tube; clotted sample; underfilled tube; overfilled tube; mislabeled or unlabeled specimens

Interpretive

Reference Range:

Ranges apply to all ages:	
LA Screening Test (LA1)	<45 seconds
LA Confirmatory Test (LA2)	<40 seconds
LA1/LA2 ratio	<1.40

Critical Values:

N/A

Limitations:

If heparin contamination is suspected the heparin removal procedure should be performed.

Icteric, lipemic and hemolyzed samples may interfere with the detection of the clot on some photoelectric instruments.

Methodology:

LA1 Screening Reagent: Russell's Viper Venom initiates clotting by directly activating factor X. LA antibodies prolong the LA1 Screening Reagent clotting time. The LA1 Screening Reagent is more specific for LA than PTT's because deficiencies of the extrinsic pathway (factor VII), contact factor abnormalities (factors XI, XII) as well as hemophilic factors (factors VII,IX) are bypassed in this reaction.

LA2 Confirmation Reagent: Confirmation Reagent is similar to LA1 Screening Reagent but contains a high phospholipid concentration. The extra phospholipid counteracts the LA antibody and largely corrects the clot time.

LA1/LA2 ratio: The higher the ratio the stronger the inhibitor.

References:

An Algorithmic Approach to Hemostasis Testing (2008), Kandice Kottke-Marchant Chapter 22, pp. 296-303

BCS-XP System Instruction Manual (2006), 1 000 767.0506 Manual Version 1.0 Siemens; Marburg, Germany. Automated Protocol for Dade Behring Analyzers

LA1 Screening Reagent/LA2 Confirmation Reagent product insert OQGP G15 U1131

Test kit Code No. OQGP (LA1)

Test kit Code No. OQGR (LA2)

Control, Lupus Anticoagulant Low, OQWE11

Control, Lupus Anticoagulant High, OQWD11

Control Plasma N (2008 July), ORKE T45 U1135, Siemens; Marburg, Germany

The Clotting Times, Vol. 4, Issue 4, Jan. 2005: Functional Laboratory Testing for Lupus Anticoagulant

Updates:

5/7/2012: Draw volume changed, previously listed as 8.1 mL (Min: 5.4 mL).

7/14/2014: Draw volume changed, previously listed as 5.4 mL.

9/15/2014: Added Off Campus collection info.

8/2/15: Days performed update.