
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

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Testing is performed in Minneapolis Laboratory only.

Turnaround Time: 3 – 5 days (Performed on **Tuesdays and Thursdays only**)

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: 1.8 mL blood (in 2 mL tube) or 2.7 mL blood (in a 3 mL tube).

Processed Volume: 0.9 mL minimum

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: Centrifuge in Stat Spin for 5 minutes or 10 minutes at 3000 rpm at room temperature. For primary tube testing, leave plasma on cells OR remove plasma and place in a 4 mL plastic cup; allow for 100 mL of dead-space.

Test within:

- Four (4) hours when stored in the capped tube above the packed cells 18 to 24°C.
- Four (4) hours as plasma that has been separated from cells by centrifugation when stored 2 to 8°C or 18 to 24°C.
- Two (2) weeks when stored -20°C.
- Six (6) months when stored -70°C (rapidly frozen).
- Plasma must be frozen if testing cannot be completed within four (4) hours.
- Frozen plasmas are thawed at 37°C for three (3) minutes, test immediately.

Patient Preparation:

None

Sample Rejection:

Improper tube; clotted sample; under-filled 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

Sysmex CS-5100 System Application Sheet RG_39_EN-U Rev. 2.12

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

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.

7/18/23: Updated Special processing instructions. Testing performed in Minneapolis lab only. 2nd: removed daily from availability,