Lab Dept: Chemistry

Test Name: LACTATE

**General Information**

**Lab Order Codes:** LACT

**Synonyms:** Lactic acid

**CPT Codes:** 83605 – Lactate (lactic acid)

**Test Includes:** Lactate concentration reported mg/dL.

**Logistics**

**Test Indications:** Lactate is produced from pyruvate as an end product of glucose metabolism that is activated when a deficiency of oxygen leads to an accumulation of excess NADH. Lactate testing is used for the evaluation of metabolic acidosis, diabetic ketoacidosis and dehydration.

**Lab Testing Sections:** Chemistry

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 30 minutes

**Special Instructions:** It is recommended that the patient be fasting and rest for 2 hours prior to specimen draw. See Collection

**Specimen**

**Specimen Type:** Whole blood, See Collection

**Container:** Arterial/Venous draws: Sims Portex® syringe (PB151) or Smooth-E syringe (956-463) are the preferred syringes for analysis

Capillary draws: Radiometer Clinitubes™ (least desirable specimen)

**Draw Volume:** 0.4 mL blood (arterial/venous), MIN: 0.14 mL (capillary), STP: 0.2 mL (capillary)

**Processed Volume:** 0.2 mL (arterial/venous) whole blood
**Collection:** Arterial punctures are preferred. Venous samples drawn without a tourniquet will be accepted. **Immediately** remove all air from the syringe, cap tightly, mix by gentle inversion, and place in an **ice slurry**. Deliver specimens immediately to the lab for analysis.

Capillary samples can be used only when other collection methods are not available. Collect anaerobically, mix gently 20 times with a magnet, cap tightly, and place in an **ice slurry**. Deliver immediately to the laboratory for analysis.

**NOTE:** Neonatal samples may be mixed only by gentle inversion due to red cell fragility.

**Special Processing:** Lab Staff: Analyze all lactate samples **immediately. Do Not** centrifuge. Analysis must occur within 15 minutes of collection. Specimen must be delivered to testing station on ice in original collection container. Lab staff responsible for testing should be notified immediately.

**Patient Preparation:** None

**Sample Rejection:** Mislabeled or unlabeled specimen; clotted specimen; delay in specimen testing more than 30 minutes after collection

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**Interpretive**

**Reference Range:** 4.5 - 19.8 mg/dL

**Critical Values:** >45 mg/dL

**Limitations:** Venous specimens drawn with a tourniquet, or capillary specimens may lead to falsely elevated Lactate levels.

**Methodology:** Ion Selective Electrode (ISE)

**References:**


**Updates:**

- 2/17/2005: Critical value previously listed as >40 mEq/L.
- 5/26/2015: Update to specimen storage. Must be transported on ice, etc.