
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

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:	ABL800 FLEX Operator's Manual from software version 6.14, Publication: 201410, Edition: E, Code number: 994-909, www.radiometer.com ABL90 FLEX Operator's Manual from software version 3.1xx, Publication 201403, Edition H, Code 995-656 Jacobs & DeMott Laboratory Test Handbook (2001) Lexi-Comp, Inc, Hudson, OH, 5th Edition Tietz Textbook of Clinical Chemistry (1999) 3rd Edition, WB Saunders Company
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.