
Lab Dept: Chemistry

Test Name: TROPONIN I LEVEL

General Information

Lab Order Codes: PICU/CVCC/ED (iSTAT POC): PTROP

ALL OTHER NON-CRITICAL CARE DEPARTMENTS: TRPO

Off Site locations (Aligned Clinics ONLY): Miscellaneous Test, Troponin I

Synonyms: TnI, Point of Care Cardiac Troponin I

CPT Codes: 84484 – Troponin, quantitative

Test Includes: Troponin I level reported in ng/mL.

Logistics

Test Indications: Troponin is detectable 4 - 6 hours after AMI (Acute Myocardial Infarction) with peak levels occurring at approximately 12 hours, and return to normal in 3-10 days. Troponin offers the following advantages over CK-MB:

Increased cardiac specificity; avoids clinical interference from skeletal muscle damage and renal insufficiency.

Provides a tool for late presenting patients and for perioperative and postoperative patients at risk for AMI; is comparable in cost.

Troponin testing utilizing the iSTAT will be used as a diagnostic test to look for acute changes over time (0,6 hours) as well as chronic elevations. The iSTAT cTnI method is not as analytically sensitive as some laboratory instrumentation and may have a false negative rate of 15% at initial draw (time 0). At 6 hours, the negative predictive value is 99% and the sensitivity of the assay increases to over 90%. Therefore, if there is sufficient clinical suspicion to obtain cTnI, **a second level at 6 hours is strongly recommended**. A physician override will be required in order to cancel the 6-hour level.

Lab Testing Sections: **Offered Point of Care in PICU, CVCC, ED:** Run on the iSTAT Analyzer by Trained Respiratory Therapy Personnel Only

Laboratory (Core Lab) for non-critical patients: Run on the iSTAT by Trained Laboratory Personnel Only

Off-site locations/Aligned Clinics: Miscellaneous Test (Comment Troponin I send out). Sample will be sent to Allina Laboratories

Phone Numbers: **CVCC, PICU, ED:** Respiratory Therapy/ED staff will receive notification of the test upon order.

All other departments on the hospital campuses and Off-site Clinics:

MIN Lab: 612-813-6408
STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: **CVCC, PICU, ED:** Testing takes 10 minutes to complete on the iSTAT analyzer Point of Care. Results are immediately available from the instrument upon completion and sent via interface to the patient's EMR.

Non Critical Care Departments: 30 minutes (tested in lab)

Off site/Aligned clinics: 24 hours, testing will be referred to Allina Laboratories.

Special Instructions: N/A

Specimen

Specimen Type: Whole blood, venous or arterial

Container: **In house:** Heparinized blood gas syringe

Off site/Aligned clinics: Green (Lithium Heparin) NO GEL tube

Draw Volume: **In house:** Minimum 0.2 mL

Off site/Aligned clinics: 1.5 mL blood

Processed Volume: **In house:** ISTAT Analyzer volume: 65 uL blood

Off site/Aligned clinics: Minimum: 0.5 mL plasma

Collection: **In house:** Fresh whole blood collected in a heparinized blood gas syringe labeled with proper patient ID. **Capillary samples are NOT recommended for Troponin I testing. Test Troponin I within 30 minutes of sample draw.**

Off site/Aligned clinics: Routine blood collection

Special Processing: **Off site/Aligned clinics:** Centrifuge specimen, remove serum/plasma aliquot into a screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly.

Minneapolis lab call Allina Customer Service to request a pick-up 612-863-4678 (press#1). St. Paul Lab should tube samples to United Laboratory.

Patient Preparation: None

Sample Rejection: Hemolysis; mislabeled or unlabeled specimens

Interpretive

Reference Range:

0.00 – 0.08

Normal, healthy adult individuals

Note: Because no pediatric reference range data is published, the adult reference range of 0.00-0.08 ng/mL will be utilized as this represents 99% of healthy adults.

Critical Values: N/A

Limitations: Decreased values occur in grossly hemolyzed samples and rare antibodies to troponin.

Methodology:
In house: ISTAT
Off site/Aligned Clinics: Chemiluminescent Microparticle Immunoassay (CMIA)

References:
In house:
i-STAT System Manual, 714362-00AD, 23-April-2020
iSTAT Procedure Manual, 714446-00AC, 15-April-2020
iSTAT cTnl Cartridge IFU, 715595-00V, 23-April-2018

Off site/Aligned Clinics:
Allina Hospital Laboratories

Updates:
6/21/2011: Update turnaround time information.
3/5/2012: Test changed from Troponin T to Troponin I. Troponin T is no longer available.
3/15/2012: Tube type changed from red top to green top.
12/9/2020: iSTAT sample type changed to heparin syringe only. Add details of in house/send out testing. Update references
1/12/2021: Updated for non-critical testing by laboratory staff.