
Lab Dept: Urine/Stool

Test Name: CARNITINE, URINE

General Information

Lab Order Codes: UCAR

Synonyms: Carnitine Total and Free, Urine; L-Carnitine, Urine

CPT Codes: 82379 - Carnitine (total and free), quantitative, each specimen

Test Includes: Total Urine Carnitine, Free Urine Carnitine and Ratio of Acylcarnitine to Free Carnitine

Logistics

Test Indications: Measurement of carnitine in urine and plasma is of interest in patients with a clinical suspicion of a wide range of inborn errors of metabolism. These include more than 100 disorders, especially organic acidemias and fatty acid oxidation disorders, where abnormal metabolites are cleared by excretion into the urine and bile as carnitine derivatives, with resulting secondary carnitine deficiency.

Lab Testing Sections: Urine/Stool - Sendouts

Referred to: Mayo Medical Laboratories (MML Test: CARNU)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 2 - 7 days, test set up Thursday

Special Instructions: N/A

Specimen

Specimen Type: Urine, random collection

Container: Plastic leakproof container (No preservatives)

Draw Volume: 1.5 mL (Minimum: 1 mL) from a random urine collection

Processed Volume: Same as Draw Volume

Collection: A random urine sample may be obtained by voiding into a urine cup and is often performed at the laboratory. Bring the refrigerated container to the lab. Make sure all specimens submitted to the laboratory are properly labeled with the patient's name, medical record number and date of birth.

Special Processing: Lab Staff: Send specimen frozen to reference lab in a plastic, 10 mL urine tube.

Patient Preparation: None

Sample Rejection: Warm specimens, mislabeled or unlabeled specimens

Interpretive

Reference Range:

Total Carnitine	180 - 412 nmol/mg Cr
Free Carnitine	77 - 214 nmol/mg Cr
Ratio (Acyl to Free)	0.7 - 3.4

Critical Values: N/A

Limitations: N/A

Methodology: Tandem Mass Spectrophotometry (MS/MS)

Contraindications: Increased values are obtained after carnitine supplementation or meat consumption.

Recommend determination of serum carnitine concentration concurrently with urine collection.

References: [Mayo Medical Laboratories Web Page](#) August 2015

Updates: 9/17/2010: Units change from umol/g Cr to nmol/mg Cr