MAYO CLINIC LABORATORIES

Test Definition: URCU

Uric Acid, 24 Hour, Urine

Overview

Useful For

Assessment and management of patients with kidney stones, particularly uric acid stones

Special Instructions

- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens

Method Name

Colorimetric

NY State Available

Yes

Specimen

Specimen Type

Urine

Ordering Guidance

X-ray dyes and contrast media will affect test results.
-If a kidney X-ray with dye or computerized tomography (CT) scan with contrast has been performed, patient should wait a minimum of 1 day before starting collection.
-If a cholangiography (bile duct X-ray) has performed, patient should wait 7 days before starting collection.
-Urine must be collected before tablets have been taken for gallbladder X-ray, otherwise patient should wait 7 days before starting collection.

Necessary Information

24-Hour volume (in milliliters) is required.

Specimen Required

Supplies: Sarstedt 5 mL Aliquot Tube (T914)
Collection Container/Tube: 24-Hour graduated urine container with no metal cap or glued insert
Submission Container/Tube: Plastic, 5 mL tube or a clean, plastic aliquot container with no metal cap or glued insert
Specimen Volume: 5 mL
Collection Instructions:
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens for multiple collections.

Forms

If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

Urine Preservative Collection Options

Note: The addition of preservative or application of temperature controls **must occur within 4 hours of completion** of the collection.

Ambient (no additive)	No
Refrigerate (no additive)	OK
Frozen (no additive)	OK
50% Acetic Acid	No
Boric Acid	Preferred
Diazolidinyl Urea	OK
6M Hydrochloric Acid	No
6M Nitric Acid	No
Sodium Carbonate	OK
Toluene	No

Specimen Minimum Volume

1 mL

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	14 days	
	Ambient	7 days	
	Frozen	30 days	

Clinical & Interpretive

Clinical Information

Uric acid is the end-product of purine metabolism. It is freely filtered by the glomeruli and most is reabsorbed by the tubules. There is also active tubular secretion.

Increased levels of uric acid in the urine usually accompany increased plasma uric acid levels unless there is a decreased excretion of uric acid by the kidneys. Urine uric acid levels reflect the amount of dietary purines and endogenous nucleic acid breakdown.

Reference Values

Males > or =18 years old: 200-1,000 mg/24 hours

Females > or =18 years old: 250-750 mg/24 hours

Reference values have not been established for patients who are less than 18 years of age.
The reference value is for a 24-hour collection.

Interpretation

Urinary uric acid excretion is elevated in a significant proportion of patients with uric acid stones.

Uric acid excretion can be either decreased or increased in response to a variety of pharmacologic agents.

Urine uric acid levels are elevated in states of uric acid overproduction such as in leukemia and polycythemia and after intake of food rich in nucleoproteins.

Cautions

High levels of bilirubin and ascorbic acid may interfere with measurement.

Clinical Reference

1. Lamb EJ, Jones GRD: Kidney function tests. Rifai N, Horvath AR, Wittwer CT, eds: Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 6th ed. Elsevier; 2018:500-503
2. Newman DJ, Price CP: Renal function and nitrogen metabolites. In: Tietz NW, ed. Textbook of Clinical Chemistry. WB Saunders Company; 1999:1245-1250

Performance

Method Description

Uricase cleaves uric acid to form allantoin and hydrogen peroxide. In the presence of peroxidase, 4-aminophenazone is oxidized by hydrogen peroxide to a quinone-diimine dye. The color intensity of the quinone-diimine formed is directly proportional to the uric acid concentration and is determined by measuring the increase in absorbance.(Package insert: Uric Acid reagent. Roche Diagnostics; 11/2023)

PDF Report

No

Day(s) Performed

Monday through Sunday

Report Available

Same day/1 to 3 days

Specimen Retention Time

7 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

Fees & Codes

Fees

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification

This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

84560

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
URCU	Uric Acid, 24 HR, U	3087-4

Result ID	Test Result Name	Result LOINC® Value
UACID	Uric Acid, 24 HR, U	3087-4
TM29	Collection Duration	13362-9
VL27	Urine Volume	3167-4
UACN1	Uric Acid Concentration	21587-1