
Lab Dept: Urine/Stool

Test Name: OROTIC ACID, URINE

General Information

Lab Order Codes: ORAU

Synonyms: Orotic Acid, Urine

CPT Codes: 83921 - Organic acids; single, quantitative

Test Includes: Urine Orotic Acid concentration in mmol/mol creatinine

Logistics

Test Indications: Useful for evaluation of the differential diagnosis of hyperammonemia and hereditary orotic aciduria.

When orotic acid is measured after a protein load or allopurinol administration, excretion of orotic acid is a very sensitive indicator of ornithine transcarbamylase (OTC) activity.

Lab Testing Sections: Urine/Stool - Sendouts

Referred to: Mayo Clinic Laboratories (MML Test: OROT)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 4 - 8 days, set up twice per week.

Special Instructions: The [Mayo Biochemical Genetics Patient Information form](#) is recommended. A provider may fax, email, or deliver paper form to the Sendouts Lab department.

Specimen

Specimen Type: Urine, random collection

Container: Plastic leakproof container (No preservative).

Draw Volume: See [Processed Volume](#):

Processed Volume:	3 mL (Minimum: 2 mL) from a random collection
Collection:	Random urine collection in a leakproof plastic container
Special Processing:	Lab Staff: Mix specimen well, aliquot 3 mL (Minimum: 2 mL) urine to a 10 mL plastic tube. Ship frozen. Forward promptly. Specimen stable frozen for 90 days.
Patient Preparation:	None
Sample Rejection:	Specimens other than urine; warm specimens; mislabeled or unlabeled specimens

Interpretive

Reference Range:

≤ 6 years: ≤ 4 mmol/mol creatinine

7-18 years: ≤ 3 mmol/mol creatinine

≥ 19 years: 5 mmol/mol creatinine

The interpretation of the result must be correlated with clinical and other laboratory findings.

Critical Values:

N/A

Limitations:

Pregnant patients will normally excrete up to twice the upper limit of the adult reference range.

Methodology:

Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)

References:

[Mayo Clinic Laboratories](#) May 2025

Updates:

5/14/2025: Omitted timed/24hr collection. Updated reference ranges and methodology. Added specimen stability.