



Laboratory Service Manual

Lab Dept: Urine/Stool

Test Name: AMINOLEVULINIC ACID, URINE

General Information

Lab Order Codes: UALA

Synonyms: Aminolevulinic Acid (ALA) Urine

CPT Codes: 82135 – Aminolevulinic acid, delta (ALA)

Test Includes: Urine Arylsulfatase A concentration reported in mcmol/L or mcmol/24 hrs (depending on age and type of specimen submitted)

Logistics

Test Indications: Useful for assistance in the differential diagnosis of the various porphyrias. As an Indicator of lead toxication in children.

Lab Testing Sections: Urine/Stool - Sendouts

Referred to: Mayo Medical Laboratories (test #8406)

Phone Numbers:

Minneapolis: 612-813-6280

Saint Paul: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 3 -6 days, test set up Tuesday and Thursday

Special Instructions: **Contact the lab** for a urine collection container with preservative before beginning urine collection. See [Container](#).

Submit an entire 24-hour urine collection. **Must** refrigerate specimen during and after collection. Protect specimen from the light.

Note: Starting and ending times of collection are required for a timed urine collection and must be documented electronically or on the proper request form.

Specimen

Specimen Type: Urine, timed



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- Container:** Plastic leakproof container with preservative. Preservative: Add 25 mL of 50% Acetic Acid at the beginning of the collection. Use 15 mL of 50% Acetic acid for children under 5 years. A pH of 2.0 - 4.0 is desired.
- Urine GUARD® collection container is preferred for a timed urine sample.
- Draw Volume:** Submit an entire 24-hour urine collection
- Processed Volume:** 2 mL (Minimum: 1.0 mL) urine aliquot from a well mixed 24 hour urine collection with preservative
- Collection:** For timed urine collections, empty the bladder, discard the voided sample, and note the start time. Collect all urine voided for the specified time period. At the end of the period, note the finishing time, add the last voided sample to the container by emptying the bladder. 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: Measure urine volume. Remove a 2 mL aliquot of urine and place in an amber 60 mL urine bottle (Mayo Supply T596) to protect the specimen from light. Store and ship the specimen at refrigerated temperatures. Forward promptly.
- The 24 hour volume is required on request form for processing.
- Patient Preparation:** None
- Sample Rejection:** Specimens other than urine; mislabeled or unlabeled specimens
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Interpretive

Reference Range:

Age	Range
0 - 8 months:	not established
9 months – 5 years:	< or = 50 mcmol/L
6 years and over:	< or = 57 mcmol/24 h



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Interpretation: Elevated levels are found in several inherited and acquired conditions that are characterized by various degrees of delta-aminolevulinic aciduria including:

- ALA dehydratase deficiency porphyria
- Acute intermittent porphyria
- Hereditary coproporphyria
- Variegate porphyria
- Intoxication with lead and other heavy metals
- Tyrosinemia type I
- Alcoholism and alcohol induced hepatitis
- Pregnancy

Critical Values:

N/A

Limitations:

The differential diagnosis of delta-aminolevulinic aciduria must be considered on the basis of the patient's clinical presentation.

The preferred test for lead toxicity in children is blood lead.

Methodology:

Colorimetric

References:

Davis J, Audelman (1967) S: Urinary delta-aminolevulinic Acid (ALA) levels in lead poisoning. Arch Envir on Health 15:53-59

[Mayo Medical Laboratories Web Page](#) April 2010

Updates:

4/20/10: Units and reference range update.