MAYO CLINIC LABORATORIES

Test Definition: SKETC

Ketones, Urine

Overview

Useful For
Screening for the presence of ketoacidosis

Method Name
Dipstick

NY State Available
Yes

Specimen

Specimen Type
Urine

Specimen Required
Container/Tube: Plastic urine container
Specimen Volume: 20 mL
Collection Instructions:
1. Collect a random urine specimen.
2. No preservative.

Specimen Minimum Volume
2 mL

Reject Due To
No specimen should be rejected.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated	72 hours	

Clinical & Interpretive

Clinical Information
The body normally metabolizes fats to carbon dioxide and water. Inadequate carbohydrate in the diet or defects in carbohydrate metabolism or absorption cause the body to metabolize fatty acids. Ketones (acetoacetic acid, acetone, and beta-hydroxybutyric acid) are produced during fat metabolism and are excreted in urine.

Patients with untreated or inadequately treated diabetes mellitus are unable to efficiently utilize glucose due to insufficient insulin. Under these conditions, large amounts of fatty acids are metabolized, and abnormal amounts of ketones are excreted in the urine (ketonuria).

Increased ketones may occur during physiological stress conditions such as fasting, starvation, pregnancy, strenuous exercise, fever, frequent vomiting, anorexia, and some inborn errors of metabolism.

Reference Values
Negative

Interpretation
Detection of ketones in the urine of a diabetic is significant and indicates a change in insulin dosage or other alteration in treatment is necessary.

Ketones may appear in urine in large amounts before serum ketone is elevated.

Cautions
False positive results (trace or less) may occur with highly pigmented urine specimens or those containing large amounts of levodopa metabolites. Compounds such as mesna (2-mercaptoethane sulfonic acid) that contain sulfhydryl groups may cause false positive results or an atypical color reaction.

Clinical Reference
1. Free HM: Modern Urine Chemistry Manual. Bayer Corp; 1996:47-49
2. Morton A: Review article: Ketoacidosis in the emergency department. Emerg Med Australas. 2020 Jun;32(3):371-376. doi: 10.1111/1742-6723.13503

Performance

Method Description
The Clinitek Status+ analyzer is a reflectance spectrophotometer that analyzes the intensity and color of the light reflected from the reagent areas. No calculations are required.(Package insert: Multistix 10 SG Reagent Strip. AN30516J. Siemens; Rev, 02/2011)

PDF Report
No

Day(s) Performed
Monday through Sunday

Report Available
1 day

Specimen Retention Time
2 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

81003

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
SKETC	Ketone, QL, U	50557-8

Result ID	Test Result Name	Result LOINC® Value
SKETC	Ketone, QL, U	50557-8