

Overview

Useful For

Detecting and confirming drug abuse involving cocaine

This test is **not intended for** employment-related testing.

Method Name

Gas Chromatography Mass Spectrometry (GC-MS) Confirmation with Quantitation

NY State Available

Yes

Specimen

Specimen Type

Urine

Ordering Guidance

1. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order COKEX / Cocaine and Metabolite Confirmation, Chain of Custody, Random, Urine.
2. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700.
3. If urine creatinine is required or adulteration of the sample is suspected, order ADULT / Adulterants Survey, Random, Urine.

Specimen Required

Supplies: Urine Tubes, 10 mL (T068)

Collection Container/Tube: Plastic urine container

Submission Container/Tube: 10-mL urine tube

Specimen Volume: 10 mL

Collection Instructions:

1. Collect a random urine specimen.
2. No preservative.

Additional Information:

1. No specimen substitutions.
2. STAT requests are **not** accepted for this test.

Forms

If not ordering electronically, complete, print, and send a [Therapeutics Test Request](#) (T831) with the specimen.

Specimen Minimum Volume

5 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	
	Frozen	14 days	
	Ambient	72 hours	

Clinical & Interpretive

Clinical Information

Cocaine is a drug of current health concern because of its proliferation among recreational drug abusers.

Freebase and crack increase the potential for major cocaine toxicity. Cocaine use is declining across the nation according to the National Institute of Drug Abuse.

Increasingly, laboratory results are disputed or there are medical/legal overtones. Therefore, physicians are finding an increased need to confirm positive results before informing or confronting the patients.

Reference Values

Negative

Positive results are reported with a quantitative gas chromatography mass spectrometry (GC-MS) result.

Cutoff concentrations:

COCAINE BY GC-MS

<50 ng/mL

BENZOYLECGONINE BY GC-MS

<50 ng/mL

Interpretation

Reports will specifically indicate the presence or absence of cocaine and benzoylecgonine.

The presence of cocaine, or its major metabolite, benzoylecgonine, indicates use within the past 4 days.

Cocaine has a 6-hour half-life, so it will be present in urine for 1 day after last use.

Benzoylecgonine has a half-life of 12 hours, so it will be detected in urine up to 4 days after last use.

There is no correlation between concentration and pharmacologic or toxic effects.

Cautions

No significant cautionary statements

Clinical Reference

1. Baselt RC, ed. Disposition of Toxic Drugs and Chemicals in Man. 10th ed. In: Biomedical Publications; 2014
2. Langman LJ, Bechtel LK, Holstege C. Clinical toxicology. In: Rifai N, Chiu RWK, Young I, Burnham CAD, Wittwer CT, eds. Tietz Textbook of Laboratory Medicine. 7th ed. Elsevier; 2023:chap 43

Performance**Method Description**

To accommodate the need to confirm specifically the presence of cocaine in urine, Mayo Clinic Laboratories offers a single test to identify cocaine and its principal metabolite, benzoylecgonine, by using gas chromatography mass spectrometry.(Chinn DM, Crouch DJ, Peat MA, et al. Gas chromatography-chemical ionization mass spectrometry of cocaine and its metabolites in biological fluids. J Anal Toxicol 1980;4:37-42; Rosado T, Goncalves A, Margalho C, Barroso M, Gallardo E. Rapid analysis of cocaine and metabolites in urine using microextraction in packed sorbent and GC/MS. Anal Bioanal Chem. 2017;409(8):2051-2063. doi:10.1007/s00216-016-0152-2)

PDF Report

No

Day(s) Performed

Monday, Wednesday, Thursday, Friday

Report Available

2 to 5 days

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

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.

Test Definition: COKEU

Cocaine and Metabolite Confirmation,
Random, Urine

- Prospective clients should contact their account representative. For assistance, contact [Customer Service](#).

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information

80353
G0480 (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
COKEU	Cocaine and metabolite Conf, U	20519-5

Result ID	Test Result Name	Result LOINC® Value
2922	Cocaine-by GC/MS	20519-5
2902	Benzoylecgonine-by GC/MS	16226-3
20671	Cocaine Interpretation	69050-3
28080	Chain of Custody	77202-0