

## 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, 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, 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. STATS are **not** accepted for this test.

### Forms

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

### Reject Due To

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

### Specimen Minimum Volume

5 mL

**Specimen Stability Information**

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

**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 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. Disposition of Toxic Drugs and Chemicals in Man. Tenth edition. Edited by RC Baselt. Foster City, CA: Biomedical Publications, 2014

2. Langman LJ, Bechtel L, Holstege CP: Chapter 35: Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. Edited by CA Burtis, ER Ashwood, DE Bruns. WB Saunders Company, 2011, pp 1109-1188

**Performance**

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**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)

**PDF Report**

No

**Specimen Retention Time**

2 weeks

**Performing Laboratory Location**

Rochester

**Fees & Codes****Test Classification**

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

**CPT Code Information**

80353

G0480 (if appropriate)