

Overview

Useful For

Detecting drug abuse involving barbiturates such as amobarbital, butalbital, pentobarbital, phenobarbital, and secobarbital

Method Name

Gas Chromatography Mass Spectrometry (GC-MS)

NY State Available

Yes

Specimen

Specimen Type

Urine

Ordering Guidance

For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order BARBX / Barbiturates Confirmation, Chain of Custody, Random, Urine.

Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700.

Additional Testing Requirements

If urine creatinine is required or adulteration of the sample is suspected, also order ADULT / Adulterants Survey, Random, Urine in addition to this test.

Specimen Required

Supplies: Urine Tubes, 10 mL (T068)

Container/Tube: Plastic, 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

| | |
|-----------------|----|
| Gross hemolysis | OK |
| Gross icterus | OK |

Specimen Stability Information

| Specimen Type | Temperature | Time | Special Container |
|---------------|--------------------------|----------|-------------------|
| Urine | Refrigerated (preferred) | 14 days | |
| | Frozen | 14 days | |
| | Ambient | 72 hours | |

Clinical & Interpretive

Clinical Information

Barbiturates represent a class of drugs that were originally introduced as sleep inducers. Butalbital is also used to control severe headaches. Mephobarbital and phenobarbital are frequently used to control major motor (grand mal) seizures. These drugs are commonly abused as "downers" to induce sleep after an amphetamine- or cocaine-induced "high."

Reference Values

Negative

Cutoff concentrations:

BUTALBITAL BY GC-MS

<100 ng/mL

AMOBARBITAL BY GC-MS

<100 ng/mL

PENTOBARBITAL BY GC-MS

<100 ng/mL

SECOBARBITAL BY GC-MS

<100 ng/mL

PHENOBARBITAL BY GC-MS

<100 ng/mL

Interpretation

The presence of a barbiturate in urine indicates use of one of these drugs.

Most of the barbiturates are fast acting; their presence indicates use within the past 3 days.

Phenobarbital, commonly used to control epilepsy, has a very long half-life. The presence of phenobarbital in urine indicates that the patient has used the drug sometime within the past 30 days.

Cautions

No significant cautionary statements.

Clinical Reference

1. Baselt RC. Disposition of Toxic Drugs and Chemicals in Man. 10th ed. Biomedical Publications; 2014
2. Langman LJ, Bechtel LK, Holstege CP. 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

Gas chromatography mass spectrometry confirmation with quantitation.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Monday, Wednesday, Friday

Report Available

3 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.
- 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

80345

G0480 (if appropriate)

LOINC® Information

| Test ID | Test Order Name | Order LOINC® Value |
|---------|------------------------------|--------------------|
| BARBU | Barbiturates Confirmation, U | 53746-4 |

| Result ID | Test Result Name | Result LOINC® Value |
|-----------|-----------------------------|---------------------|
| 21442 | Butalbital-by GC/MS | 16237-0 |
| 20642 | Amobarbital-by GC/MS | 16239-6 |
| 20643 | Pentobarbital-by GC/MS | 16240-4 |
| 20644 | Secobarbital-by GC/MS | 16238-8 |
| 20645 | Phenobarbital-by GC/MS | 16241-2 |
| 20651 | Barbiturates Interpretation | 69050-3 |
| 20647 | Chain of Custody | 77202-0 |