# Test Definition: AMOBS

Amobarbital, Serum

## Overview

### Useful For
Monitoring amobarbital therapy

### Method Name
Gas Chromatography Mass Spectrometry (GC-MS)

### NY State Available
Yes

## Specimen

### Specimen Type
Serum Red

### Specimen Required
**Supplies:** Sarstedt Aliquot Tube, 5 mL (T914)
**Collection Container/Tube:** Red top (Serum gel/SST are **not acceptable**)
**Submission Container/Tube**: Plastic vial
**Specimen Volume:** 1.5 mL
**Collection Instructions:**
1. Draw blood immediately before the next scheduled dose.
2. Within 2 hours of collection, centrifuge and aliquot serum into a plastic vial.

### Specimen Minimum Volume
0.6 mL

### Reject Due To

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

### Specimen Stability Information

| Specimen Type | Temperature | Time | Special Container |
|---|---|---|---|
| Serum Red | Refrigerated (preferred) | 28 days | |
| | Ambient | 28 days | |
| | Frozen | 28 days | |

## Clinical & Interpretive

### Clinical Information

Amobarbital is an intermediate-acting barbiturate with hypnotic properties used in short-term treatment of insomnia and to reduce anxiety and provide sedation preoperatively.(1,2)

Amobarbital is administered by intravenous infusion or intramuscular injection. The duration of its hypnotic effect is about 6 to 8 hours. The drug distributes throughout the body, with a volume of distribution of 0.9 to 1.4 L/kg, and about 59% of a dose is bound to plasma proteins. Metabolism takes place in the liver primarily via hepatic microsomal enzymes. Its half-life is about 15 to 40 hours (mean: 25 hours). Excretion occurs mainly in the urine.(2,3)

### Reference Values

Therapeutic concentration: 1.0-5.0 mcg/mL
Toxic concentration: >10 mcg/mL

Cutoff concentrations by gas chromatography mass spectrometry:
Amobarbital: 0.5 ng/mL

### Interpretation

Amobarbital concentrations above 10 mcg/mL have been associated with toxicity.

### Cautions

The concentration at which toxicity occurs varies, and results should be interpreted in light of the clinical situation.

Specimens collected in serum gel tubes are not acceptable because the drug can absorb on the gel and lead to falsely decreased concentrations.

### Clinical Reference

1. 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
2. Baselt RC. Disposition of toxic drugs and chemical in man. 12th ed. Biomedical Publications; 2020
3. Milone MC, Shaw LM. Therapeutic drugs and their management. In: Rifai N, Chiu RWK, Young I, Burnham CAD, Wittwer CT, eds. Tietz Textbook of Laboratory Medicine. 7th ed. Elsevier; 2023:420-453
4. Mihic SJ, Mayfield J. Hypnotics and sedatives. In: Brunton LL, Knollmann BC, eds. Goodman and Gilman's The Pharmacological Basis of Therapeutics. 14th ed. McGraw-Hill Education; 2023:chap 22

## Performance

### Method Description

Barbiturates are extracted from serum using solid-phase extraction techniques. The serum is buffered and eluted with organic solvent. The organic phase is dried, reconstituted, and analysis performed by gas chromatography mass spectrometry using selected ion monitoring. The assay utilizes deuterated barbiturates as internal

standards.(Unpublished Mayo method)

### PDF Report
No

### Day(s) Performed
Thursday

### Report Available
3 to 9 days

### Specimen Retention Time
2 weeks

### Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Superior Drive

## 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
80299

### LOINC® Information

| Test ID | Test Order Name | Order LOINC® Value |
|---|---|---|
| AMOBS | Amobarbital, S | 3338-1 |

| Result ID | Test Result Name | Result LOINC® Value |
|---|---|---|
| 8325 | Amobarbital, S | 3338-1 |