

Overview

Useful For

Assessing compliance

Monitoring for appropriate therapeutic level

Assessing temazepam toxicity

Method Name

Liquid Chromatography Tandem Mass Spectrometry (LC-MS/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 mL

Collection Instructions: Centrifuge and aliquot serum into a plastic vial.

Specimen Minimum Volume

0.3 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

Temazepam is US Food and Drug Administration-approved to treat insomnia (trouble with sleeping). It is typically taken short-term (approximately 7-10 days). It is a benzodiazepine, which are a class of medicines that are central nervous system depressants and slow down the nervous system. It is extensively metabolized via conjugation and *N*-demethylation to oxazepam. Its elimination half-life ranges from 3.5 to 18.4 hours.

Reference Values

Therapeutic concentrations

Temazepam: 600-1100 ng/mL at 1 hour

Cutoff concentrations by liquid chromatography tandem mass spectrometry:

Temazepam: 10 ng/mL

Oxazepam: 10 ng/mL

Interpretation

Suggested therapeutic serum temazepam concentrations range between 600 and 1100 ng/mL at 1-hour post-dose.

Cautions

No significant cautionary statements

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. Hiemke C, Bergemann N, Clement HW, et al. Consensus guidelines for therapeutic drug monitoring in neuropsychopharmacology: Update 2017. *Pharmacopsychiatry*. 2018;51(1-02):9-62

Performance

Method Description

The internal standard mixture containing chlordiazepoxide-d5, diazepam-d5, nordiazepam-d5, oxazepam-d5, and temazepam-d5 is added to serum samples, mixed, and centrifuged. The supernatant is diluted and injected on a liquid chromatography tandem mass spectrometer.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Wednesday

Report Available

3 to 7 days

Specimen Retention Time

14 days

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 |
|---------|---------------------------|--------------------|
| TEMZS | Temazepam and Oxazepam, S | 11024-7 |

| Result ID | Test Result Name | Result LOINC® Value |
|-----------|------------------|---------------------|
| 623017 | Temazepam | 10343-2 |
| 623018 | Oxazepam | 3886-9 |