MAYO CLINIC LABORATORIES

Test Definition: TMP

Trimethoprim, Serum

Overview

Useful For
Monitoring trimethoprim therapy to ensure drug absorption, clearance, or compliance

Method Name
Liquid-Chromatography Tandem Mass Spectrometry (LC-MS/MS)

NY State Available
Yes

Specimen

Specimen Type
Serum Red

Specimen Required
Collection Container/Tube: Red top (gel tubes/SST are **not** acceptable)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions:
1. Serum for a peak level should be collected at least 60 minutes after a dose.
2. Centrifuge and aliquot serum into plastic vial within 2 hours of collection.

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

Specimen Minimum Volume
0.2 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

Trimethoprim is coadministered with sulfamethoxazole for prophylaxis or treatment of bacterial infections. These agents are used to treat a variety of infections, including methicillin-resistant *Staphylococcus aureus*, and for prophylaxis in immunosuppressed patients, such as individuals who are HIV-positive.

Trimethoprim has a wide therapeutic index and dose-dependent toxicity. Trimethoprim accumulates in patients with kidney failure.

Therapeutic drug monitoring is not commonly performed unless there are concerns about adequate absorption, clearance, or compliance. Accordingly, routine drug monitoring is not indicated in all patients.

Reference Values

>2.0 mcg/mL (Peak)

Interpretation

Most patients will display peak steady state serum concentrations of more than 2.0 mcg/mL when the specimen is collected at least 1 hour after an oral dose. Target concentrations may be higher depending on the intent of therapy.

Cautions

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

Clinical Reference

1. Kamme C, Melander A, Nilsson NI: Serum and saliva concentrations of sulfamethoxazole and trimethoprim in adults in children: Relation between saliva concentrations and in vitro activity against nasopharyngeal pathogens. Scand J Infect Dis. 1983;15(1):107-113. doi: 10.3109/inf.1983.15.issue-1.18
2. Young T, Oliphant C, Araoyinbo I, Volmink J: Co-trimoxazole prophylaxis in HIV: the evidence. S Afr Med J. 2008 Apr;98(4):258-259
3. Avdic E, Cosgrove S: Management and control strategies for community-associated methicillin-resistant *Staphylococcus aureus*. Expert Opin Pharmacother. 2008 Jun;9(9):1463-1479. doi: 10.1517/14656566.9.9.1463
4. Brunton LL, Hilal-Dandan R, Knollmann BC, eds. Goodman and Gilman's: The Pharmacological Basis of Therapeutics. 13th ed. McGraw-Hill Publishing; 2018

Performance

Method Description

Samples are extracted with analyte detection by tandem mass spectrometry.(Unpublished Mayo method)

PDF Report
No

Day(s) Performed
Monday, Thursday

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.
- 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
TMP	Trimethoprim, S	11005-6

Result ID	Test Result Name	Result LOINC® Value
80146	Trimethoprim, S	11005-6