

# **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**

Supplies: Sarstedt Aliquot Tube, 5 mL (T914)

**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. Within 2 hours of collection, centrifuge and aliquot serum into a plastic vial.

#### **Forms**

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

- -<u>Therapeutics Test Request</u> (T831)
- -Neurology Specialty Testing Client Test Request (T732)

## Specimen Minimum Volume

0.5 mL

# **Reject Due To**

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

# **Specimen Stability Information**



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| 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;98(4):258-259
- 3. Avdic E, Cosgrove SE. Management and control strategies for community-associated methicillin-resistant *Staphylococcus aureus*. Expert Opin Pharmacother. 2008;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**



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# **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**

Mayo Clinic Laboratories - Rochester Superior Drive

#### Fees & Codes

#### **Fees**

- Authorized users can sign in to <u>Test Prices</u> for detailed fee information.
- Clients without access to Test Prices can contact <u>Customer Service</u> 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact <u>Customer Service</u>.

# **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

| TMP Trimethoprim, S | 11005-6 |
|---------------------|---------|

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