
Lab Dept: Chemistry

Test Name: MYCOPHENOLIC ACID LEVEL

General Information

Lab Order Codes: MPA

Synonyms: MPA; CellCept; Mycophenolate Mofetil

CPT Codes: 80180 – Mycophenolate (mycophenolic acid)

Test Includes: Mycophenolic Acid and MPA Glucuronide levels reported in mcg/mL.

Logistics

Test Indications: Monitoring therapy with CellCept to ensure adequate blood levels and avoid overimmunosuppression.

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Medical Laboratories (MML Test: MPA)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 1- 3 days, performed daily

Special Instructions: Serum gel tubes can not be used for collection.

Specimen

Specimen Type: Blood

Container: Red top tube

Draw Volume: 3 mL (Minimum: 0.3 mL) blood

Processed Volume: 1 mL (Minimum: 0.1 mL) serum

Note: Submission of the minimum volume does not allow for repeat analysis and may result in a QNS (quantity not sufficient) test result.

Collection:	Routine venipuncture
Special Processing:	Lab Staff: Centrifuge specimen, remove serum aliquot into a screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly.
Patient Preparation:	None
Sample Rejection:	Mislabeled or unlabeled specimens; incorrect specimen type; gross hemolysis; gross lipemia; grossly icteric

Interpretive

Reference Range:

Mycophenolic Acid:	1.0 – 3.5 mcg/mL
MPA Glucuronide:	35 – 100 mcg/mL
<p>Interpretation: Trough serum levels of mycophenolic acid (MPA) at steady-state (>2weeks at the same dose) in the range of 1.0-3.5 mcg/mL indicate adequate therapy. Mycophenolic acid glucuronide (MPA-G) levels in the range of 35 to 100 mcg/mL indicate that the patient has normal uridine diphosphate glucuronosyltransferase (UGT) metabolic capacity. MPA-G levels are typically in the range of 100 to 250 mcg/mL during the 2 weeks following transplantation. MPA-G typically decreases after this initial post-transplant phase.</p> <p>Trough steady-state serum MPA levels >4.0 mcg/mL indicate that the patient is overimmunosuppressed and susceptible to systemic infections. Decreased dosages may be indicated in these cases.</p> <p>Low MPA levels and high MPA-G levels suggest that the patient has an active UGT metabolic capability; higher doses may be required to maintain therapeutic levels of MPA. Some patients have a high UGT metabolic capacity. These patients may require 1 gram or more 3 times a day to maintain trough serum MPA levels in the range of 10 mcg/mL to 3.5 mcg/mL. They are likely to have MPA-G levels >100 mcg/mL. MPA-G is inactive; MPA-G levels only describe the patient’s metabolic status.</p> <p>Patients who have low UGTT conjugating capability may become overimmunosuppressed, indicated by a trough steady-state serum MPA level >4.0 mcg/mL and a MPA-G level <40 mcg/mL. Dose reduction or interval prolongation is indicated in this case.</p>	

Critical Values: N/A

Limitations: Correct interpretation requires a trough serum specimen (just before the next regular dose). Specimens drawn at other times in the dosing cycle are likely to have higher MPA levels. In these cases, the reference range does not apply.

Methodology: Tandem Mass Spectrophotometry (MS/MS)

References: [Mayo Medical Laboratories](#) (October 2014)

Update: 1/28/16:CPT update