

---

**Lab Dept:** Chemistry

**Test Name:** TPMT GENOTYPE

---

***General Information***

**Lab Order Codes:** TGEN

**Synonyms:** Prometheus TPMT Genetics; Thiopurine S-methyltransferase Genetics

**CPT Codes:** 81401 – Molecular pathology, Level 2

**Test Includes:** A qualitative evaluation, to determine a patient's ability to produce thiopurine methyltransferase enzyme. Classifies patients into one of three genotypes; normal (wild type), heterozygous or homozygous recessive.

---

***Logistics***

**Test Indications:** Because each patient metabolizes thiopurines differently, the efficacy and toxicity of thiopurines can vary widely from patient to patient. Knowledge of the TPMT genotype may; reduce time to response, allow physicians to individualize dosing, identify patients in whom thiopurine therapy should be avoided and help reduce risk of leukopenia.

**Lab Testing Sections:** Chemistry - Sendouts

**Referred to:** Prometheus Therapeutics and Diagnostics (Prometheus Test: 3300)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 – 3 days

**Special Instructions:** N/A

---

***Specimen***

**Specimen Type:** Whole blood

**Container:** Lavender top (EDTA) tube

**Draw Volume:** 5 mL blood

**Processed Volume:** Same as Draw Volume

**Collection:** Routine venipuncture

**Special Processing:** Lab Staff: Do Not Centrifuge. Store specimen at ambient temps before shipping. Stable for 8 days at ambient temperatures and 30 days at 2-8 degrees centigrade.

Use the following procedure with the Coolant Equipped Transportation Kit:

1. Freeze flat the cold pack included in the kit.
2. Only one specimen may be shipped for each cold pack.
3. Use an EDTA vacutainer tube, inverted 2-3 times to mix.
4. Label whole blood specimen with pt name, collect date, date of birth, MR number and lab accession number.
5. Place specimen in zip lock bag along with dry mop.
6. Place tube in tube compartment.
7. Place frozen cold pack in large compartment.
8. Fold and insert the Prometheus copy of the requisition into the remaining compartment.
9. Close the kit, place into the Airborne Biological Specimen Bag and seal.
10. Fill in your return address and adhere the label to the specified location on the Airborne bag.
11. Call Airborne Express at 1-800-247-2676 for pickup.

**Patient Preparation:** None

**Sample Rejection:** Mislabeled or unlabeled specimens

---

***Interpretive***

**Reference Range:** TPMT\*1/TPMT\*1 – Alleles present are associated with Normal Enzyme Activity

**Critical Values:** N/A

**Limitations:** N/A

**Methodology:** Isolation/Extraction of nucleic acid, Amplification of nucleic acid for three different DNA sequences, Nucleic acid probe

**References:** [Prometheus](#) March 2011

**Updates:** 3/14/2011: CPT update for testing from Prometheus  
11/26/2013: CPT update