

THIOPURINE  
METHYLTRANSFERASE:  
PHENOTYPE

## Orderable - TPMT

Turnaround Time: 7 days

### Alternate Name(s):

TPMT Phenotype

### Specimen:

Adult	Pediatric
2 x 4 mL Lavender top (EDTA) tubes	0-2 years: 2 x 0.5 mL Lavender top (EDTA) Microtainer tubes 2-10 years: 2 x 3 mL Lavender top (EDTA) Vacutainer tubes
Avoid gel-separator tubes	

**TPMT phenotyping is ordered as a careset that also includes a CBC since the hemoglobin concentration must be provided to the testing lab. Therefore, two tubes must be collected for this test: one will be used for the CBC and the other will be sent out for TPMT phenotyping.**

### Collection Information:

For the tube to be sent out for TPMT phenotyping, the minimum volume of whole blood required is 1 mL for adult samples or 0.5 mL for pediatric samples, **but the sample must be sent in the original collection tube and not aliquoted.**

TPMT activity must be measured prior to RBC transfusion to avoid false indication of patient's TPMT activity. TPMT enzyme activity can be inhibited by several drugs and may contribute to falsely low results. Patients should discontinue drugs for at least 48 hours prior to TPMT testing: naproxen, ibuprofen, ketoprofen, furosemide (Lasix), sulfasalazine (Azulfidine), mesalamine (Asacol), olsalazine (Dipentum), mefenamic acid (Ponstel), trimethoprim (Proloprim), methotrexate, thiazide diuretics, and benzoic acid inhibitors.

Patients should be tested prior to Azathioprine or 6-MP treatment.

**Note:** This test is only available to gastroenterologists at SJH/LHSC. If requested by other physician's approval must be given by the Biochemist on-call.



**Laboratory:**  
Core Lab



**Requisition:**  
GENERAL LABORATORY  
REQUISITION



**Method of Analysis:**  
Enzymatic –  
UPLC/Fluorescence



**Test Schedule:**  
Referred out Monday-  
Wednesday



**Referred Out Location:**  
[In-Common Laboratories](#)

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**Reference Ranges:**

Low Activity:	< 10 nmol/g Hb/h
Intermediate:	10 - 40 nmol/g Hb/h
Normal Activity:	> 40 nmol/g Hb/h

**Comments:**

TMPT enzyme activity is expressed relative to red blood cell hemoglobin concentration. The validity of results has not been determined in patients with pronounced anemia.

**Storage and Shipment:**

Do not centrifuge or freeze. Please send on ice packs. Specimen must be received at ICL Monday-Thursday within 4 days of collection. State collection date. The hemoglobin concentration from the same collection date as the TPMT phenotyping specimen must be included on the ICL worksheet.

TPMT Genotyping is also available - see separate listing.