For clinicians considering thiopurine drug therapy, ARUP offers a full menu of testing to support patient care.

### Test Code: Thiopurine Methyltransferase, RBC
- **Test Name:** Thiopurine Methyltransferase, RBC
- **Description:** Phenotype test that assesses risk for severe bone marrow toxicity with standard dosing of thiopurine drugs
- **Details:** Performed before thiopurine therapy is initiated
- **Additional Information:** Can detect rapid metabolizer phenotype

### Test Code: TPMT and NUDT15
- **Test Name:** TPMT and NUDT15
- **Description:** Assesses genetic risk for severe bone marrow toxicity with standard dosing of thiopurine drugs
- **Details:** May be used for pre or post-therapeutic assessment

### Test Code: Thiopurine Metabolites by LC-MS/MS
- **Test Name:** Thiopurine Metabolites by LC-MS/MS
- **Description:** Allows clinicians to optimize therapy for thiopurine drugs
- **Details:** Identifies thiopurine metabolite concentrations that may lead to toxicity
- **Additional Information:** May be used for post-therapeutic assessment

Guidelines for thiopurine dosing by the Clinical Pharmacogenetics Implementation Consortium (CPIC) can be found at [www.pharmgkb.org/gene/PA356](http://www.pharmgkb.org/gene/PA356)

The phenotype (enzyme assay) or genotype tests should be performed prior to thiopurine drug therapy to identify patients with abnormal TPMT enzyme activity. Dose adjustments may be required to minimize the risk for toxicity and to optimize therapy.

Kamisha Johnson-Davis, PhD, DABCC

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