NEW TEST

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Thiopurine Metabolites in Red Blood Cells

3016503, THIOMET

Specimen Requirements:	
Patient Preparation:	Trough collection (within 1 hour prior to the next dose).
Collect:	Lavender (EDTA) or pink (K2EDTA).
Specimen Preparation:	Transport 5 mL whole blood. (Min: 2.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Gel separator tubes. Hemolyzed or lipemic specimens. Frozen specimens.
Remarks:	
Stability:	Ambient: 24 hours; Refrigerated: 7 days; Frozen: Unacceptable
Methodology:	Quantitative Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Tue, Thu, Sat
Reported:	1-5 days
Note:	
CPT Codes:	80299 (Alt code: G0480)
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Thiopurine drug therapy is used to treat autoimmune diseases, inflammatory bowel disease, acute lymphoblastic leukemia, and to prevent rejection after solid organ transplant. Thiopurine drugs are metabolized to active 6-thioguanine nucleotides, which are regulated by thiopurine methyltransferase (TPMT) and nudix hydrolase 15 (NUDT15). Certain variants in the TPMT and/or NUDT15 genes can be associated with an accumulation of cytotoxic metabolites that increase the risk of drug-related toxicity with standard doses of thiopurine drugs. Thiopurine metabolites concentrations are used to assess therapeutic and toxic concentrations of thiopurine drugs.

INTERPRETIVE INFORMATION: Thiopurine metabolites	
6-TG	
Therapeutic range (optimal dosing)	235-450 pmol 6-TGN/8×108 red blood cells
Suboptimal dosing	<235 pmol 6-TGN/8×108 red blood cells
Increased risk for toxicity	>450 pmol 6-TGN/8×108 red blood cells may increase the risk for myelotoxicity and leukopenia
6-MMP	
Increased risk for toxicity	>5700 pmol 6-MMPN/8×108 red blood cells may increase the risk for hepatotoxicity

Reference Interval:

HOTLINE NOTE: Refer to the Hotline Test Mix for interface build information.