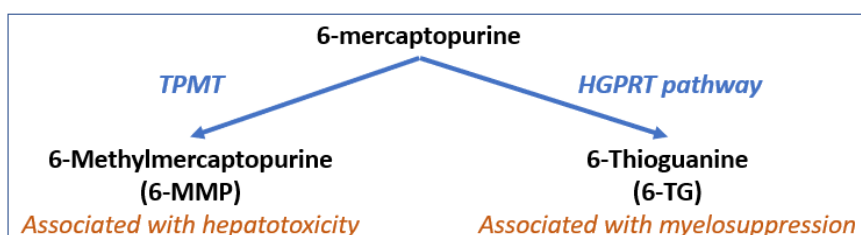


Thiopurine metabolites

Pseudonyms - 6-TGN (6-thioguanine nucleotides) / 6MMPN (6-methylmercaptopurine nucleotides)

Therapeutic monitoring for patients on thiopurine drug treatment. Monitoring metabolite levels is advisable due to wide inter-individual variation in metabolism of thiopurine drugs, which is also dependent on concurrent drug therapy.



General information

Collection container:

Adults – whole blood EDTA (4.9mL Starstedt pink top).

Paediatrics – whole blood EDTA (1.2mL / 1.8mL Starstedt pink top).

Type and volume of sample: Whole blood (EDTA) – 1mL minimum volume

Specimen transport: Routine transport

Special Precautions: N/A

Laboratory information

Method principle: Acid hydrolysis of 6TGN and 6MMPN back to their parent molecules (6TG and 6MMP) followed by HPLC analysis with UV detection.

Biological reference range or cut off:

6-TGN: 235-450 pmol 6TGN/8x10⁸ cells: maximum drug efficacy in IBD.

Turnaround time: 2 weeks

Division of Laboratory Medicine

Biochemistry

Clinical information

Factors known to significantly affect the results: None – RBC corrected results are reported

Samples with 6MMP interference are referred for confirmation by MS

Clinical decision points:

6-TGN: 235-450 pmol 6TGN/ 8×10^8 cells: maximum drug efficacy in IBD.
>1000 pmol 6TGN/ 8×10^8 cells: increased risk of myelosuppression

6-MMPN: >5700 pmol 6MMPN/ 8×10^8 cells: Increased risk of hepatotoxicity.

(Last updated March 2021)