Lithium (LI)

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Date & Time of Export: 27 June 2026 10:34

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TEST OVERVIEW

Test Name	Lithium
Test Code	LI
Short Description	Lithium

OVERVIEW

Test Name	Lithium
Test Code	LI
Category	Biochemistry
TAT	Main Lab: , 6, 12 Hour(s) Family Site: <8hrs, <6hrs, <12hrs
Specimen(s)	1 x Venous blood - 5 mL Tube - Gold - SST-Serum Separator Tube 1 x - - 5 mL Tube - Red - Serum

SPECIMEN(S)

SST-Serum Separator Tube

Specimen Type	SST-Serum Separator Tube
Specimen Format	Tube
Specimen Colour	Gold
Specimen Volume	5 mL
Sampling Order	2
Origin	Venous blood
Collection time after baseline	-
Transport Temperature	2-8°C
Accepted Other Specimens	EDTA Plasma Sodium Heparin Plasma

	Serum SST-Serum Separator Tube
TAT	Main Lab: , 6, 12 Hour(s) Family Site: <8hrs, <6hrs, <12hrs
Test Stability	Room Temp: 7 Day(s) 2–8°C: 7 Day(s)

Serum

Specimen Type	Serum
Specimen Format	Tube
Specimen Colour	Red
Specimen Volume	5 mL
Sampling Order	2
Origin	-
Collection time after baseline	-
Transport Temperature	2-8°C
Accepted Other Specimens	EDTA Plasma Sodium Heparin Plasma Serum SST-Serum Separator Tube
TAT	Main Lab: , 6, 12 Hour(s) Family Site: <8hrs, <6hrs, <12hrs
Test Stability	Room Temp: 7 Day(s) 2–8°C: 7 Day(s)

CLINICAL INFORMATION

Lithium

Methodology	-
Specimen Type	SST-Serum Separator Tube Serum
Delay before pre-treatment	8
Transport Temperature	2-8°C
Transport Stability at room temp	7 Day
Transport Stability at 2–8°C	7 Day
Haemolysis interference	No

Clinical Interest

Lithium is a mood stabilizer widely used to treat manic and depressive episodes and to prevent their recurrence. However, it has a narrow therapeutic window, meaning that the difference between a therapeutic dose and a toxic dose is small.

Lithium levels need to be within a specific range to be effective. For most patients, the therapeutic range is between 0.6 and 1.2

mmol/L (milliequivalents per litre). Monitoring ensures that the dose is sufficient to manage symptoms without causing toxicity.

The appropriate dose of lithium can vary between individuals due to factors like age, kidney function, and body weight. Regular blood tests help guide dose adjustments to maintain lithium levels within the therapeutic range.

Symptoms of lithium toxicity include nausea, vomiting, diarrhea, tremors, confusion, and in severe cases, seizures, coma, or death.

Early detection of elevated lithium levels allows for timely intervention, such as dose reduction or cessation of the drug, before serious toxicity develops.
Interpretation of Lithium Levels:

- **Therapeutic Range**: The generally accepted therapeutic range for lithium in the blood is 0.6 to 1.2 mmol/L, though this can vary slightly depending on the clinical situation.
- **Toxic Levels**: Levels above 1.5 mmol/L are considered potentially toxic, with levels above 2.0 mmol/L requiring urgent medical attention.
- **Timing of Blood Tests**: Lithium levels should be measured 12 hours after the last dose (known as a "trough" level) to ensure an accurate assessment of the steady-state concentration.

PATIENT INFORMATION

Clinical Information Required	Monitoring as part of treatment Drug name Frequency Date of last medication taken - Time of last medication taken
Patient Collection Notes	It is recommended that a standardised 12-hour post-dose lithium concentration be used to assess adequate therapy. Peak concentration is reached 2 to 4 hours after an oral dose.

COMMENTS & NOTES

LOINC Code	334-7, 14334-7
Outwork	No