

Calcitonin

Description	Calcitonin is secreted by the parafollicular cells of the thyroid under calcium control.
Indication	Diagnosis and monitoring of medullary thyroid cancer cancer (MTC). Screen for multiple endocrine neoplasia type 2 (MEN 2) and familial MTC.
Additional Info	Calcitonin is secreted in direct response to hypercalcaemia and acts to maintain bone density by inhibiting osteoclast activity and regulating cell number. High doses of calcitonin can be given to osteoporotic patients. In MTC and C-cell hyperplasia excess calcitonin is produced. MTC is an uncommon malignant thyroid tumour accounting for <5% of all thyroid malignancy. 25% of MTC are familial. In medullary cancer a positive correlation between calcitonin and tumour size is seen. Calcitonin can also be secreted by small cell carcinoma of the lung or breast, renal tubule carcinoma and carcinoid tumours. Presence of haemoglobin can cause a decreased result.
Concurrent Tests	TFT
Dietary Requirements	Fasting morning sample.
Interpretation	Reference ranges for calcitonin are <3.4pmol/L for males and <1.4pmol/L for females. A single raised level is normally sufficient for diagnosis, although some may require a provocative test. Following a thyroidectomy an undetectable level should be maintained. Persistently elevated post-op Calcitonin usually indicates incomplete cure.
Collection Conditions	Serum or heparinised plasma. Transport to lab immediately, on ice
Frequency of testing	Serial measurements are useful for assessing recurrence and prognosis.