



Dr Test Doctor

Lab ID

Patient ID P000004

Test Patient

Sex: Female • 18yrs • 20-Sep-07

123 Home Street, Test Suburb VIC 3125

RECEIVED

Endocrinology

Specimen type - Blood-Serum

Collected

15-Apr-26

REVERSE T3 PROFILE	RESULT	REFERENCE	UNITS
Reverse T3	702 H 	(230-540)	pmol/L

Thyroid Function Comment

ELEVATED REVERSE T3 LEVEL:

Elevated reverse T3 (rT3) reflects increased peripheral conversion of thyroxine (T4) toward the inactive metabolite rT3 rather than the biologically active triiodothyronine (T3). This pattern indicates an alteration in thyroid hormone metabolism at the tissue level and may occur independently of circulating thyroid hormone concentrations.

rT3 is generated via 5-deiodinase (D3) activity, which inactivates T4 and T3. Increased rT3 levels are typically associated with reduced conversion of T4 to active T3 (via D1/D2 pathways), resulting in a relative reduction in tissue T3 availability despite potentially normal serum TSH and T4 levels.

Elevated rT3 is commonly observed in the context of physiological stress or altered metabolic states, including systemic illness, inflammation, caloric restriction, and increased cortisol exposure. This response is considered an adaptive mechanism to reduce metabolic demand during periods of stress. Alterations in hepatic function, nutrient status (e.g., selenium, zinc), and certain medications may also influence deiodinase activity and contribute to elevated rT3.

From a biochemical perspective, elevated rT3 may be associated with a reduced T3:rT3 ratio, which can provide additional context regarding peripheral thyroid hormone utilisation. However, rT3 should not be interpreted in isolation, as its clinical significance remains dependent on the broader thyroid profile and clinical presentation.

Methodology

Liquid Chromatography-Mass Spectrometry (LC-MS/MS/MS)