
Lab Dept: Chemistry

Test Name: T3 (TRIIODOTHYRONINE), FREE, SERUM

General Information

Lab Order Codes: T3FR

Synonyms: Free T3; FT3

CPT Codes: 84481 – Triiodothyronine T3; free

Test Includes: Free triiodothyronine concentration reported in pg/mL.

Logistics

Test Indications: Free Triiodothyronine (T3) is a second or third level test of thyroid function. It provides further confirmation of hyperthyroidism, supplementing the tetraiodothyronine (T4), sensitive thyrotropin (sTSH), and total T3 assays. Monitoring thyroid hormone replacement.

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Clinic Laboratories (MML: T3FR)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily

Turnaround Time: 1 - 3 days

Special Instructions: N/A

Specimen

Specimen Type: Blood

Container: SST (Marble, gold or red top tube)

Draw Volume: 3.0 mL (Minimum: 2.3 mL) blood

Processed Volume: 1.0 mL (Minimum: 0.75 mL) serum

Note: Submission of the minimum volume does not allow for repeat analysis and may result in QNS (quantity not sufficient) test results.

Collection:	Routine venipuncture
Special Processing:	Lab Staff: Centrifuge specimen, remove serum into a screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly. Specimen stable refrigerated (preferred) for 14 days, frozen for 30 days.
Patient Preparation:	None
Sample Rejection:	Gross hemolysis; warm specimens; mislabeled or unlabeled specimen

Interpretive

Reference Range:

Pediatric
 0-1 month: 2.7-8.5 pg/mL
 1 to <12 months: 3.4-5.6 pg/mL
 1 to <14 years: 3.0-5.1 pg/mL
 14 to <19 years: 3.3-5.3 pg/mL
 Adult (> or =19 years): 2.0-4.4 pg/mL

Critical Values:

N/A

Limitations:

Free T3 (triiodothyronine) is not a sensitive test for hypothyroidism.

In rare cases, some individuals can develop antibodies to mouse or other animal antibodies (often referred to as human anti-mouse antibodies [HAMA] or heterophile antibodies), which may cause interference in some immunoassays. The presence of antibodies to streptavidin or ruthenium can also rarely occur and may interfere in this assay. Caution should be used in interpretation of results, and the laboratory should be alerted if the result does not correlate with the clinical presentation.

Serum biotin concentrations up to 1200 ng/mL do not interfere with this assay. Concentrations up to 1200 ng/mL may be present in specimens collected from patients taking extremely high doses of biotin up to 300 mg/d. In a study among 54 healthy volunteers, supplementation with 20 mg/d biotin resulted in a maximum serum biotin concentration of 355 ng/mL 1-hour postdose.

Methodology:

Electrochemiluminescence Immunoassay (ECLIA)

References:

[Mayo Clinic Laboratories](#) April 2024

Updates:

04/04/2024: Initial entry, replaced obsolete FT3 (Mayo's FRT3)