

---

**Lab Dept:** Chemistry

**Test Name:** FREE THYROXINE (T4)

---

***General Information***

**Lab Order Codes:** FT4

**Synonyms:** Free T4

**CPT Codes:** 84439 – Thyroxine; free

**Test Includes:** Free thyroxine concentration reported in ng/dL.

---

***Logistics***

**Test Indications:** Free Thyroxine (T4) is the portion of T4 that is not bound to transport proteins. It is metabolically active and is a precursor to triiodothyronine (T3). Free T4 levels correlate with T4 secretion and metabolism.

**Lab Testing Sections:** Chemistry

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 day

**Special Instructions:** N/A

---

***Specimen***

**Specimen Type:** Blood

**Container:** Preferred: Green top (Li Heparin) tube  
Alternate: Red, marble or gold top tube

**Draw Volume:** 1.5 mL (Minimum: 0.6 mL) blood

**Processed Volume:** 0.5 mL (Minimum: 0.2 mL) plasma/serum

**Collection:** Routine venipuncture

**Special Processing:** Lab Staff: Centrifuge specimen, remove plasma/serum aliquot into a plastic sample cup. Store at 2-8 degrees Centigrade for up to 7 days.

**Patient Preparation:** None

**Sample Rejection:** Mislabeled or unlabeled specimen

---

***Interpretive***

**Reference Range:** 0.8 - 1.8 ng/dL

**Critical Values:** N/A

**Limitations:** Elevated values may be seen in patients on thyroxine therapy. Heterophile antibodies may interfere with immunoassay tests. A number of drugs including phenytoin, carbamezapine, ibuprofen, and salicylate, may interfere with Free T4 results due to competition for TBG sites. Thyroid autoantibodies when present may cause elevated results.

**Methodology:** Homogeneous Sequential Chemiluminescent Immunassay

**References:** Siemens Dimension Vista Directions For Use (8/21/2013) Siemens Healthcare Diagnostics

National Committee for Clinical Laboratory Standards (NCCLS) (2002) Clinical Laboratory Technical Procedure Manuals; Approved Guideline-Fourth Edition GP2-A4

Biorad Immunoassay Plus Control Product Insert

Burtis, CA, Ashwood, ER, Bruns, DE, ed (2006) Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 4th Edition, Philadelphia: W.B. Saunders

Jacobs and DeMott Laboratory Test handbook (2001) 5th Edition, Lexi-comp Inc

**Updates:** 7/22/2014: Method change, previously listed as Competitive Immunoassay/Competitive.  
2/8/2016: Update alt tube types