

---

**Lab Dept:** Chemistry

**Test Name:** THYROGLOBULIN TUMOR MARKER

---

***General Information***

**Lab Order Codes:** TG

**Synonyms:** HTG; TATC (Thyroglobulin Assay for Thyroid Cancer); TG; Thyroglobulin HTG; Thyroglobulin Antibody Screen

**CPT Codes:** 84432 – Thyroglobulin, tumor marker  
86800 – Thyroglobulin antibody screen

**Test Includes:** Includes Thyroglobulin Tumor Marker reported in ng/mL and Anti-thyroglobulin Antibody reported in IU/mL.

---

***Logistics***

**Test Indications:** Follow-up of patients with differentiated thyroid cancers after thyroidectomy and ablation. As an aid in determining the presence of thyroid metastasis to lymph nodes.

**Lab Testing Sections:** Chemistry - Sendouts

**Referred to:** Mayo Medical Laboratories (Test: HTG2)

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

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 - 3 days, test set up Monday through Saturday

**Special Instructions:** See [Patient Preparation](#)

---

***Specimen***

**Specimen Type:** Blood

**Container:** Red NO GEL tube

**Draw Volume:** 3 mL (Minimum: 1.5 mL) blood

**Processed Volume:** 1 mL (Minimum: 0.5 mL) serum

<b>Collection:</b>	Routine venipuncture
<b>Special Processing:</b>	Lab Staff: Centrifuge specimen, remove serum aliquot into a screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly.
<b>Patient Preparation:</b>	Twelve hours prior to this test, do not take multivitamins or dietary supplements containing biotin or vitamin B7 that are most commonly found in hair, skin and nail supplements and multivitamins.
<b>Sample Rejection:</b>	Gross hemolysis, mislabeled or unlabeled specimens; specimens drawn in gel tubes, plasma or whole blood

***Interpretive***

**Reference Range:**

<b>Thyroglobulin Tumor Marker:</b>	All ages: < or = 33 ng/mL (normal intact thyroid) OR < 0.1 ng/mL (athyrotic patients)
<b>Thyroglobulin Antibody</b>	All ages: <1.8 IU/mL

**Critical Values:**

N/A

**Limitations:**

The test is most sensitive for detection of thyroid cancer recurrence when patients are off thyroid replacement long enough to have an elevated TSH prior to drawing the specimen. This test also can be used to follow patients with normal TSH; however, Tg values from specimens with high TSH should not be compared with values with normal TSH, because TSH stimulation changes the baseline determinations.

Thyroid autoantibodies may interfere with the measurement of Tg. All specimens are prescreened for antibodies and a comment appended to the report if they are present. Undetectable levels of Tg should be interpreted with caution if anti-Tg is present. A Tg antibody result of <22 IU/mL is unlikely to cause clinically significant Tg assay interference. It is recommended that the thyroglobulin result be reviewed for concordance with clinical presentation.

Specimens with Tg concentrations >250,000 ng/mL may hook and appear to have markedly lower values.

Anti-Tg values determined by different methodologies might vary significantly and cannot be directly compared with one another. Some patients might show to be antibody-positive by some methods and antibody-negative by others. Comparing anti-Tg antibodies values from different methods might lead to erroneous clinical interpretation.

In patients receiving therapy with high biotin doses (ie, >5 mg/day), no specimen should be drawn until at least 8 hours after the last biotin administration.

Tg concentrations >2,000 ng/mL may lead to falsely elevated anti-Tg concentrations.

**Methodology:**

Thyroid Tumor Marker: Immunoenzymatic Assay  
Anti-Thyroid Antibody: Immunoenzymatic Assay

**References:**

[Mayo Clinic Laboratories Web Page](#) April 2020

**Updates:**

4/6/2004: Test code at Mayo changed. Test name changed from Thyroglobulin to Thyroglobulin Tumor Marker.

9/20/2006: Thyroglobulin Ab reference range previously reported as  $\leq 2.3$  IU/mL.

1/23/2008: Note change in Thyroglobulin Screening Reference range.

10/5/2010: Note new athyrotic reference values.

1/27/2011: Due to reagent issues at MML for Thyroglobulin Ab, the Tumor Marker battery no longer screens for this test. A separate order to Antithyroglobulin Ab must be ordered and will be forwarded to Quest Diagnostics.

4/12/2011: Mayo has validated a new Anti-thyroglobulin Ab test and has added it back to this test. Please note the new method and reference range. Testing is now all performed at Mayo.

10/6/2014: Updated reference range and new method for Anti-Thyroid Ab.

12/14/2017: Updated patient preparation instructions.

4/29/2020: Updated reference range for Thyroglobulin Ab per Mayo