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; Thryoglobulin 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. All specimens are screened for the presence of autoantibodies to thyroglobulin.

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 Clinic Laboratories (MML Test Code: 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

Collection: Routine venipuncture

Special Processing: Lab Staff: Centrifuge specimen, remove serum aliquot into a screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly.

Specimen stable refrigerated (preferred) or ambient for 7 days, frozen for 30 days.

Patient Preparation: 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.

Sample Rejection: Gross hemolysis or icterus, mislabeled or unlabeled specimens; specimens drawn in gel tubes, plasma or whole blood

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Interpretive

Reference Range:

Thyroglobulin Tumor Marker:	≤ 33 ng/mL
Thyroglobulin Antibody	<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 thyrotropin (TSH) prior to collecting the specimen. This test also can be used to follow patients with normal TSH; however, thyroglobulin (Tg) values from specimens with high TSH should not be compared with values with normal TSH, because TSH stimulation changes the baseline determinations.

Thyroglobulin autoantibodies (TgAb) may interfere with the measurement of Tg. All specimens are prescreened for TgAb, and a comment appended to the report if they are present. Undetectable levels of Tg should be interpreted with caution if TgAb are present. A Tg antibody result of less than 1.8 IU/mL is unlikely to cause clinically significant Tg assay interference. It is recommended that the Tg result be reviewed for concordance with clinical presentation.

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. Caution should be used in interpretation of results, and the laboratory should be alerted if the result does not correlate with the clinical presentation.

Specimens with Tg concentrations greater than 250,000 ng/mL may "hook" and appear to have markedly lower levels.

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

Methodology:

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

References:

Mayo Clinic Laboratories May 2025

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 ≤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
5/14/2025: Omitted unique reference ranges for athyrotic vs. intact thyroid patients. Updated Cautions. Added specimen stability.