

# Thyroglobulin Antibody

<b>Acronyms</b>	Anti-Tg, Anti-Thyroglobulin, Antithyroglobulin Ab
<b>Method:</b>	Access Chemiluminescent Immunoassay
<b>Kit Manufacturer:</b>	Beckman Coulter, Fullerton, CA
<b>Description:</b>	<p>Thyroglobulin is produced by the thyroid gland. It is a water soluble glycoprotein of approximately 660,000 Daltons. It is a major component of the thyroid follicular colloid and is present in small amounts in serum. The principal role of thyroglobulin is the storage and synthesis of thyroid hormones. The thyroid hormones 3, 5, 3', 5', - tetraiodothyronine (thyroxine, T4) and 3, 5, 3', -triiodothyronine (T3) are synthesized from thyroglobulin.</p> <p>Thyroglobulin autoantibodies (TgAb) are often present in patients with autoimmune thyroid disease. Approximately 10% of healthy individuals have TgAb at measurable levels. TgAb can be detected in 30% of patients with Graves' disease and in 85% of patients with Hashimoto's thyroiditis.<sup>2</sup> However, elevated levels of autoantibodies to thyroid peroxidase (TPO autoantibodies) occur more frequently than high TgAb levels in these diseases.</p> <p>Sensitive TgAb methods are needed to identify patient sera that contain thyroglobulin autoantibodies that may interfere with serum thyroglobulin measurements.</p> <p>The Access Thyroglobulin Antibody II assay is a sequential two-step immunoenzymatic ("sandwich") assay. A sample is added to a reaction vessel with paramagnetic particles coated with the thyroglobulin protein. The serum or plasma TgAb binds to the thyroglobulin. After incubation in a reaction vessel, materials bound to the solid phase are held in a magnetic field while unbound materials are washed away. The thyroglobulin-alkaline phosphatase conjugate is added and binds to the TgAb. After the second incubation, materials bound to the solid phase are held in a magnetic field while unbound materials are washed away. Then, the chemiluminescent substrate is added to the vessel and light generated by the reaction is measured with a luminometer. The light production is directly proportional to the concentration of thyroglobulin antibody in the sample. The amount of analyte in the sample is determined from a stored, multi-point calibration curve.</p>

## Collection and Performance Characteristics

<b>Tube type:</b>	Preferred: SST Alternate: EDTA or Heparin Plasma
<b>Minimum Volume:</b>	0.5 mL
<b>Special Processing Considerations</b>	Thaw samples no more than two times
<b>Lowest Reportable Value:</b>	0.9 IU/mL
<b>Dynamic range:</b>	0.9 – 500 IU/mL
<b>Precision:</b>	Intra-assay variation is 3.8 – 5.1% Inter-assay variation is 4.3-11.0%
<b>Reference Range:</b>	0-4 IU/mL