TPO Antibody

Acronyms	Anti-Thyroperoxidase, Anti-TPO, Antithyroid Peroxidase
Method:	Access Chemiluminescent Immunoassay
Kit Manufacturer:	Beckman Coulter, Fullerton, CA
Description:	The detection of TPOAb is an aid in the diagnosis of thyroid autoimmune disorders and enables the physician to differentiate thyroid autoimmune disorders from non-autoimmune goiter or hypothyroidism. Thyroperoxidase (TPO) is a membrane-associated hemoglycoprotein expressed only in thyrocytes. This enzyme catalyzes the oxidation of iodide on tyrosine residues in thyroglobulin for the synthesis of T3 and T4 and is one of the most important thyroid gland antigens. The determination of TPOAb levels is the most sensitive test for detecting autoimmune thyroid disease. The highest TPOAb levels are observed in patients suffering from Hashimoto's thyroiditis. In this disease, the prevalence of TPOAb is about 90% of cases confirming the autoimmune origin of the disease. These autoantibodies also frequently occur (60-80%) in the course of Graves' disease. The Access TPO Antibody assay is a sequential two-step immunoenzymatic ("sandwich") assay. A sample is added to a reaction vessel with paramagnetic particles coated with thyroperoxidase protein. The serum or plasma TPOAb binds to the thyroperoxidase. 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 Protein A-alkaline phosphatase conjugate is added and binds to the TPOAb. 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 TPOAb in the sample. The amount of analyte in the sample is determined from a stored, multi-point calibration curve.

Collection and Performance Characteristics

Tube type:	Preferred: SST Alternate: EDTA or Lithium Heparin Plasma
Minimum Volume:	0.5 mL
Special Processing Considerations	Thaw samples no more than three times. Avoid assaying lipemic or hemolyzed samples.
Lowest Reportable Value:	0.25 IU/mL
Dynamic range:	0.25 – 1000 IU/mL
Precision:	Intra-assay variation is 3.4 – 4.9% Inter-assay variation is 3.59-6.39%
Reference Range:	0-10 IU/mL