CLINICAL PATHOLOGY LABORATORIES
A Sonic Healthcare Clinical Laboratory

Client Communication

# Change in Instrumentation and Methodology: Thyroglobulin Antibody and Thyroid Peroxidase Antibody

**Effective May 8th, 2023**, Clinical Pathology Laboratories (CPL) is pleased to announce a change in the method and analytic platform for Thyroglobulin Antibody (Anti-Tg) and Thyroid Peroxidase Antibody (Anti-TPO). The new methodology is electrochemiluminescence immunoassay (ECLIA).

The change in instrumentation and methodology will result in changes to reference range and the clinical reporting range of the two assays.

**Reference Range Changes:**

| Assay | Current Reference Range | New Reference Range |
|---|---|---|
| Thyroglobulin AB | < 4 IU/mL | <=115 IU/mL |
| Thyroid Peroxidase AB | < 9 IU/mL | <= 34 IU/mL |

**Clinical Reporting Range Changes:**

| Assay | Current Clinical Reporting Range | New Clinical Reporting Range |
|---|---|---|
| Thyroglobulin AB | 1 - 2200 IU/mL | 10 - 4000 IU/mL |
| Thyroid Peroxidase AB | 1 - 900 IU/mL | 9 - 600 IU/mL |

**Important note:** *Thyroglobulin AB values determined on patient samples by different testing procedures cannot be directly compared with one another and can cause erroneous medical interpretations. Re-baselining of patients may be required in some cases, and will be offered by CPL at provider request. CPL will also maintain the current analytic platform and methodology for 180 days after the above effective date.* ***Requests for re-baselining will be performed on current, retained specimens. CPL retains specimens for 7 days from receipt at our laboratory.***

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Thyroglobulin (Tg) is produced in the thyroid gland and is a main component in the lumen of the thyroid follicle. In synergy with the enzyme thyroid-specific peroxidase (TPO), Tg has an essential function in the iodination of L-tyrosine and in the formation of the thyroid hormones T4 and T3.

Thyroid-specific peroxidase (TPO) is synthesized in the endoplasmic reticulum, where it is folded to its native state and undergoes core glycosylation, before being transported to the apical plasma membrane of thyrocytes.

The detection of anti-TPO and anti-Tg are considered diagnostic markers of autoimmune thyroid disorders. The prevalence of these two antibodies is high in patients with Graves' disease and Hashimoto's thyroiditis.

| Name | Order Code |
|---|---|
| Thyroglobulin AB RFLX EIA vs LCMS | 4447 |
| Thyroglobulin AB | 4516 |
| Thyroid Peroxidase AB | 4513 |
| Thyroid Antibody Group (TPO + TG) | 4610 |
| Thyroglobulin, Quantitative and Antibody | 4927 |
| Autoimmune Antibody Profile | 4268 |
| ANA Autoimmune Profile | 4521 |
| FARR ANA Autoimmune Profile | 4537 |
| ANA Autoimmune Panel Reflex to FARR | 4884 |
| Thyroid Cascade Reflex | 2832 |

### References

Fröhlich E, Wahl R. Thyroid Autoimmunity: Role of Anti-thyroid Antibodies in Thyroid and Extra-Thyroidal Diseases. Front Immunol. 2017 May 9;8:521. doi: 10.3389/fimmu.2017.00521. PMID: 28536577; PMCID: PMC5422478.

Ghosh R, Chatterjee S, Dubey S, Pandit A, Ray BK, Benito-León J. Anti-Thyroid Peroxidase/Anti-Thyroglobulin Antibody-Related Neurologic Disorder Responsive to Steroids Presenting with Pure Acute Onset Chorea. Tremor Other Hyperkinet Mov (N Y). 2020 Jul 8;10:19. doi: 10.5334/tohm.175. PMID: 32775033; PMCID: PMC7394228.