



# TECHNICAL NOTICE

## THE MEDICAL FOUNDATION

### Thyroglobulin, Thyroglobulin Antibody and Thyroid Peroxidase Antibodies Methodology and Test Menu Change

Notification Date: 30 Jun 2017  
Effective Date: 01 Aug 2017

Thyroglobulin (Tg), Thyroglobulin Antibody (TgAb), and Thyroid Peroxidase Antibodies (TPO-Ab) testing by chemiluminescent immunoassay (CIA) will move from the Siemens Immulite platform to the Beckman Coulter Access platform. This change will provide better sensitivity in the lower reporting ranges.

Thyroglobulin testing methodology (CIA or LC-MS/MS) is determined by TgAb results.

- If TgAb is negative, thyroglobulin measurement by Beckman Coulter Access (CIA) method is indicated.
- If TgAb is positive, thyroglobulin testing will be referred to ARUP Laboratories for measurement by LC-MS/MS which is less prone to interference by TgAb.

Tg, TgAb and TPO-Ab values determined by different methodologies may vary significantly and cannot be directly compared with one another. The following equations may provide an estimate to relate previous Immulite values to values from Beckman Access.

- $Tg_{(Imm\text{ulite})} = [Tg_{(Beckman\ Access)} - 3.36] / 1.48$
- $TgAb_{(Imm\text{ulite})} = [TgAb_{(Beckman\ Access)} - 84.17] / 1.04$
- $TPO-Ab_{(Imm\text{ulite})} = [TPO-Ab_{(Beckman\ Access)} + 12.18] / 0.83$

#### Reference Ranges will change as follows:

	Old Reference Range (Imm\text{ulite})	New Reference Range (Beckman Access)
Thyroglobulin Antibody	$\leq 40$ IU/mL	0.0 – 4.0 IU/mL
Thyroglobulin by CIA	$\leq 55$ ng/mL	Athyrotic: $< 0.1$ ng/mL Intact thyroid: $< 32.1$ ng/mL
Thyroid Peroxidase Antibodies	$\leq 35$ IU/mL	0.0 – 9.0 IU/mL

#### Limitations/Interferences:

**Thyroglobulin Antibodies:** The presence of serum autoantibodies to thyroglobulin (TgAb) can interfere with assays for thyroglobulin (Tg) even at very low levels. When antibodies are detected the laboratory recommends testing for thyroglobulin by LC-MS/MS methodology which reduces but does not eliminate this interference.

**Biotin Supplements:** Samples should not be taken from patients receiving therapy with high biotin doses (i.e.  $> 5$  mg/day) until at least 8 hours following the last biotin administration.

**Heterophile Antibodies:** Patients who have been regularly exposed to animals or have received immunotherapy or diagnostic procedures utilizing immunoglobulins or immunoglobulin fragments may produce heterophile antibodies, e.g. HAMA, that interfere with immunoassays. Such interfering antibodies may cause erroneous results. Carefully evaluate the results of patients suspected of having these antibodies.

## THE MEDICAL FOUNDATION

530 North Lafayette Boulevard • South Bend, Indiana 46601  
(574) 234-4176 • (800) 544-0925  
Joyce Simpson, M.D. • *Medical Director*

**Specimen Requirements:**

Specimen:	Serum or Heparin Plasma separated from cells as soon as possible after collection.
Collection Container:	Gold top (SST) or Red top (serum) tube
Alt. Container:	Green top (Heparin) tube
Requested Volume:	3 mL
Minimum Volume:	1.5 mL (minimum volume does not allow for confirmation testing)
Storage/Transport:	Separated serum or plasma, Frozen
Stability:	Ambient: 8 hours
	Refrigerated: 48 hours
	Frozen: 1 week (thaw only once)

**Revised Test Menu:**

<b>Thyroglobulin Antibody</b> .....	Test# <b>30020</b> .....	CPT 86800
<b>Thyroglobulin Antibody and Thyroglobulin, Tumor Marker, Reflex</b> .....	Test# <b>30112</b> .....	CPT 86800
(Reflex to 30115 or 47100 based on antibody result)		
<b>Thyroid Peroxidase Antibodies</b> .....	Test# <b>30019</b> .....	CPT 86376
<b>Thyroglobulin, Tumor Marker, by CIA</b> .....	Test# <b>30115</b> .....	CPT 84432
(Intended as an add-on to original order 30020 TgAb with negative result)		
<b>Thyroglobulin by LC-MS/MS, Serum or Plasma</b> .....	Test# <b>47100</b> .....	CPT 84432
(Intended as a stand-alone test for patient known to be positive for Tg Ab)		
<b>Thyroid Antibodies Profile</b> .....	Test# <b>35508</b> .....	CPT 86376; 86800
(Includes Thyroglobulin Antibody and Thyroid Peroxidase Antibodies)		

**Discontinued Tests:**

Thyroglobulin with Thyroglobulin Antibodies (Test# 30022) .....	Refer to NEW Test# 30112
Thyroglobulin with Thyroglobulin Antibodies, Comprehensive (Test# 47294) .....	Refer to NEW Test# 30112

**[TMF online Test Directory](#)**

**Questions:** Please contact **CLIENT SERVICES 800-950-7263**, or Amobi Ezenekwe MD, [aezenekwe@sbfm.org](mailto:aezenekwe@sbfm.org), Qing Li PhD, [qli@sbfm.org](mailto:qli@sbfm.org) or Paul Moorman [pmoorman@sbfm.org](mailto:pmoorman@sbfm.org), Manager, Chemistry and Immunoassays.

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