

## Functional Thyroid Panel

Adapted from [The Essential Thyroid Cookbook](#)

As the saying goes, “Don’t guess, test.” It’s important to do the right tests and to evaluate your labs based on *functional* reference ranges, not outdated ranges that often lead to misdiagnosis and mistreatment (such as laxatives, antidepressants, or anti-anxiety drugs).

A functional or integrative medicine doctor or naturopath will typically run the whole gamut of tests. Below are what I feel are the most clinically relevant thyroid labs.

Lab:	Functional reference range:
Free T3 (FT3) <sup>a</sup>	3.2 - 4.2 pg/mL
Free T4 (FT4)	1.1 - 1.8 ng/dL
Reverse T3 (RT3) <sup>b</sup>	90 - 350 pg/mL or < 10:1 ratio RT3:FT3
Thyroid stimulating hormone (TSH) <sup>c</sup>	0.9 - 2.0 mU/L
Thyroid peroxidase antibody (TPOAb) <sup>d</sup>	< 4 or negative
Thyroglobulin antibody (TgAb) <sup>d</sup>	< 4 or negative

[Go here to order a full thyroid panel](#), including other testing we find valuable. You can also search for other labs. (They ship internationally, but the testing isn’t available in NJ, NY, and RI.)

<sup>a</sup> T3 is “the big daddy” of thyroid hormones and the most metabolically active, affecting almost every physiological process. The “free” in front of T3 (and T4) tells you what’s available and unbound and therefore usable by the body.

<sup>b</sup> Reverse T3 is just that – the “reverse” of T3. It blocks thyroid receptors and can cause patients to be unresponsive or resistant to T3. You want RT3 low; high RT3 is often brought about by intense or prolonged periods of stress and it’s typically high in people with more advanced adrenal dysfunction (HPA (hypothalamic-pituitary-adrenal) axis dysfunction). Some in the medical community question the validity of this test. You can see that there are two metrics in the chart above for RT3; while RT3 alone is an indicator of thyroid hormone resistance, calculating your RT3: FT3 ratio can also provide information on thyroid status. Go to [www.stopthethyroidmadness.com/rt3-ratio/](http://www.stopthethyroidmadness.com/rt3-ratio/) to calculate your RT3:FT3 ratio.

<sup>c</sup> According to many in the functional medicine community, anyone with TSH over 2.0 is hypothyroid, although TSH is an overall poor marker of thyroid function and should always be taken in the context of other thyroid labs, especially given that TSH can be normal in the face of low thyroid hormone production, poor T4/T3 conversion, or cellular thyroid hormone resistance.

<sup>d</sup> It’s estimated that a whopping 97 percent of people with hypothyroidism have autoimmune hypothyroidism (Hashimoto’s).

Know that thyroid antibody tests aren’t perfect. According to thyroid expert, Dr. Alan Christianson, “Over 40 percent [of those with] Hashimoto’s may never have positive antibody tests. Negative antibody tests do not rule out Hashimoto’s. In many cases, it only shows up on the ultrasound.” Conversely, often TSH, Free T3, and Free T4 are normal even with elevated antibodies.

Ultrasounds are often performed in the face of hypothyroid symptoms and low or negative antibodies. If you suspect Hashimoto’s and your labs don’t reveal Hashimoto’s, test again in two to three months, or ask for an ultrasound.