TEST: T3, FREE

PRINCIPLE:
The free fraction of the circulating triiodothyronine (T3) is considered to exert the main influence on metabolic control. In hyperthyroidism, FT3 concentrations are generally elevated and give efficient discrimination at the euthyroid/toxic borderline, providing an effective method for confirming hyperthyroidism and monitoring of its treatment. In hypothyroidism, FT3 concentrations tend to be lower, but the decrease is insufficient to give clear diagnostic information. FT3 concentrations are independent of the concentration of thyroid hormone-binding proteins, and may be measured in patients with elevated or reduced binding protein concentrations without the need for additional tests of binding capacity. FT3 determinations should be used as part of a thyroid test strategy, which may include free T4 and high sensitivity TSH assays.

SPECIMEN REQUIREMENTS:
2ml collected in a serum separator tube (gel barrier). Separate serum from cells ASAP or within 2 hours of collection by centrifugation. Stability after separation from cells: Ambient: 18 Hours; Refrigerated: 7 Days; Frozen: 1 year (avoid repeated freeze/thaw cycles).

REJECTION CRITERIA: Plasma or other body fluids. Gross hemolysis

METHOD: Enhanced Chemiluminescence.

REFERENCES:
1. Robbins J, Rall JE. Interactions of thyroid hormones and proteins in biological fluids. *Recent Prog Horm Res* 13: 161-202; 1957.
2. Lewis M. Measurement of free thyroid hormones in health and disease. In Ekins R et al (eds), *International Symposium on Free Thyroid Hormones*. Venice. Excerpta Medica:167-180; 1979.
3. Pinchera A et al. Free thyroid hormones in thyroid disease and effect of thyroid replacement therapy: observations by frequent sampling. In Ekins R et al (eds), *International Symposium. on Free Thyroid Hormones*. Venice. Excerpta Medica:208-220; 1979.
4. Avalos E et al. Diagnostic value of free triiodothyronine in serum. *J Nucl Med* 27:1702-1705; 1986.

Normal Range: 2.5–3.9 pg/ml

Turnaround Time: 3 business days