TEST: T4, FREE

PRINCIPLE:
The free fraction of the circulating thyroxine (T4) is considered to exert the main influence on metabolic control. Consequently, the FT4 concentration is believed to be the most direct indicator of an individual's thyroid status. FT4 concentrations are generally depressed in hypothyroidism and raised in hyperthyroidism. Measurement of FT4 thus provides an aid to the differential diagnosis of thyroid disease.
FT4 concentrations are independent of the concentration of thyroid hormone binding proteins and may therefore be measured in patients with elevated or reduced binding protein concentrations without the need for additional tests of binding capacity.

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: 8 Hours; Refrigerated: 48 Hours; Frozen: 1 year (avoid repeated freeze/thaw cycles).

REJECTION CRITERIA: Plasma or other body fluids. Gross hemolysis

METHOD:
Enhanced Chemiluminescence.

REFERENCES:
1. J, Rall JE. Interaction of thyroid hormones and protein in biological fluid. Recent Prog Horm Res 13:161-202; 1957.
2. Robbins J, Rall JE. The iodine containing hormone. In Grady CH & Bacharach AL (eds), Hormones in Blood vol. 1. London: London Academic Press: 383-490; 1967.
3. Avruskin TW et al. Measurements of free and total serum T3 and T4 in pregnant subjects and neonates. Am J Med Sci. 271:309-315; 1976.
4. Lewis M. In Ekins R et al (eds), Measurement of free thyroid hormones in health and disease. International Symposium on Free Thyroid Hormones, Venice. Excerpta Medica: 167-180; 1979.

Normal Range: 0.61–1.12 ng/dl

Turnaround Time: 3 business days