TEST: T3, TOTAL

PRINCIPLE:
Triiodothyronine (T3) contributes to the maintenance of the euthyroid state. A decrease in T3 concentration of up to 50% occurs in a variety of clinical situations, including acute and chronic disease. Although T3 results alone cannot be used to diagnose hypothyroidism, T3 concentration may be more sensitive than thyroxine (T4) for hyperthyroidism. Consequently, the total T3 assay can be used in conjunction with other assays to aid in the differential diagnosis of thyroid disease.

T3 is transported in serum primarily by thyroxine-binding globulin (TBG) and approximately 99.5% of circulating T3 is protein-bound. T3 concentrations may be altered in some conditions, such as pregnancy, that affect the capacity of the thyroid hormone-binding proteins. Under such conditions, Free T3 analysis can provide the best estimate of the metabolically active hormone concentration. Alternatively, Free T3 or T4 Indexes (i.e. estimates) can be calculated from the measurement of total T3/ T4 with the results of T3/T4 uptake assays.

SPECIMEN REQUIREMENTS:
2ml serum collected in a red top tube with no additive or in a serum separator tube (gel barrier). Serum should be separated from the clot as soon as possible to avoid hemolysis. Store/transport sample at room temperature (15-30°C) for no longer than 8 hours or at 2-8°C for up 48 hours. If testing is further delayed, sera should be frozen at -20°C or lower. Avoid repeat freeze-thaw cycles.

METHOD:
Enhanced Chemiluminescence.

REFERENCES:

Normal Range: 0.87–1.78 ng/ml

Turnaround Time: 3 days