

TEST: TESTOSTERONE, TOTAL

PRINCIPLE:

Testosterone is produced by the adrenals, the theca cells in the ovary and the leydig cells in the testes. As much as 97% of circulating testosterone is bound to serum proteins such as sex hormone binding globulin (SHBG).¹ In the male, testosterone stimulates the maturation of genitalia and secondary sexual characteristics and its measurement is used to investigate sexual dysfunction in juveniles and adults.² In females testosterone concentrations are much lower and an elevated concentration may indicate polycystic ovarian syndrome among other conditions. Clinical symptoms of testosterone excess in females include infertility, amenorrhea, obesity and hirsutism.

SPECIMEN REQUIREMENTS:

2ml serum collected in a red top tube with no additive or in a serum separator tube (gel barrier). Store in the refrigerator at 2°-8° for up to 7 days. For long term storage, freeze at -20° C or below. Avoid thaw freeze cycles.

METHOD: Enhanced Chemiluminescence

REFERENCES:

1. Whitley RJ et al. burtis CA, Ashwood ER (eds). Tietz Textbook of Clinical Chemistry. Philadelphia: WB Saunders; 1843-1886; 1994.
2. Wang C, Swerdloff RS. Evaluation of testicular function. *Bailliere's Clin Endocrinol Metab.* 6:405-434; 1992.

Normal Range:

Normal males (aged 20-49): 132-813 ng/dl

Normal males (aged >50): 71.8-623 ng/dl

Females with normal menstrual cycles: 5.71-77.0 ng/dl

These reference intervals are the central 95% of results of a study of 259 subjects.

Turnaround Time: 1 day