Clinical Use
• Assess testicular function in males

The preferred test for women, children, and hypogonadal men is Testosterone, Total (Women, Children, Hypogonadal Males), LC/MS/MS (test code 15983X).

Reference Range
Males (20-60 y) 241-827 ng/dL

Interpretive Information
• Androgen resistance
• Delayed puberty (males)
• Gonadotropin deficiency
• Testicular defects
• Systemic diseases

Clinical Background
Testosterone is secreted by the testes in the male and by both the adrenal and the ovary in the female. It is the most potent of the circulating androgenic hormones and perhaps the most reliable for clinical assessment of androgenic effects. Circulating testosterone is largely bound to sex hormone binding globulin (SHBG) and to albumin; only 2% is free.

Testosterone levels are decreased in primary (increased LH) and secondary (decreased LH) hypogonadism in the male, as well as in delayed puberty in boys.

This test is best utilized as a screening test: if results are ≥300 ng/dL, there is very little chance of hypogonadism. Aging men with testosterone levels frequently just below or close to the lower limit of the reference range may not be recognized as hypogonadal by this assay. The Endocrine Society has stated that ICMA or other "direct" assays are unreliable for diagnosing patients with low levels of testosterone. For such cases, the LC/MS/MS method should be used (test code 15983X).

Aging men with clinically significant hypogonadal symptoms and testosterone levels repeatedly ≤200-300 ng/dL may benefit from testosterone treatment after adequate risk/benefit counseling.

Method
• Immunochemiluminometric assay (ICMA)
• Analytical sensitivity: 20 ng/dL

Specimen Requirements
2 mL refrigerated serum
0.5 mL minimum
No additive red top preferred
SST red top acceptable
Specify age and sex on test request form.