



TEST: ESTRADIOL

PRINCIPLE:

Estradiol is produced by the adrenals, placenta, and testes and is the principal estrogen secreted by the ovaries. Over 98% of circulating estradiol is bound to serum proteins, principally sex hormone-binding globulin (SHBG). Metabolic clearance of estradiol is affected by conversion to estrone, and by hydroxylation and conjugation with sulfate or glucuronide. Estradiol normally exerts negative feedback control on gonadotropin release; however, as estradiol production accelerates with the rapid growth of the dominant follicle, this feedback becomes positive, causing a surge in LH secretion and ovulation to occur. The measurement of estradiol is useful in assessing a variety of menstrual dysfunctions including delayed puberty, amenorrhoea and menopause.

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

REJECTION CRITERIA:

Plasma or other body fluids. Gross hemolysis

METHOD:

Enhanced Chemiluminescence.

REFERENCES:

1. Yen SSC, Lein A. The Apparent Paradox of the Negative and Postitive Feedback Control System on Gonadotropin Secretion. *Am J Obstet Gynecol.* 126:942-954.

Normal Range:

Normal Female Mid Follicular: 27-122 pg/ml

Normal peri-ovulatory peak: 95-433 pg/ml

Normal Female Mid Luteal: 49-291 pg/ml

Postmenopausal Female: < 20-40 pg/ml

Turnaround Time: 3 business days