

## **TEST: LUTEINIZING HORMONE (LH)**

### **PRINCIPLE:**

LH is a dimeric glycoprotein hormone secreted by the anterior pituitary in response to hypothalamic gonadotrophin releasing hormone. The  $\alpha$ -subunit is common to other glycoprotein hormones, while the  $\beta$ -subunit, which confers biological activity, has some homology with that of human chorionic gonadotrophin. During the menstrual cycle, follicle stimulating hormone (FSH) stimulates growth of the ovarian follicle which, when mature, ovulates in response to a surge of LH and, to a lesser extent, of FSH. Ovarian steroids are the primary negative feedback control for LH secretion. At menopause, reduced ovarian negative feedback results in elevated LH concentrations. LH concentrations also tend to be elevated in women of pre-menopausal age who experience ovarian failure, or whose ovaries failed to mature during puberty.

### **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 5 days. For long term storage, freeze at -20° C or below. Avoid thaw freeze cycles.

**METHOD:** Enhanced Chemiluminescence

### **REFERENCES:**

1. Carlsen RB et al. Human chorionic gonadotrophin. Linear amino acid sequence of the beta subunit. *J Biol Chem.* 248: 6810-6827; 1973.
2. Short RV. The control of menstruation. *Br J Hosp Med.* 7: 552-555; 1972.
3. Hillier SG. Current Concepts of the Roles of Follicle-Stimulating and Luteinizing Hormone in Folliculogenesis. *Human Reproduction.* 9:188-191; 1994.

### **Normal Range:**

Normal Female Follicular Phase: 2.58-12.1 mIU/ml  
Normal Female Mid Cycle Peak: 27.3-96.9 mIU/ml  
Normal Luteal Phase: 0.833-15.5 mIU/ml

**Turnaround Time:** 1 day