TEST: β-hCG - Beta Human Chorionic Gonadotropin quantitation

PRINCIPLE:
The detection of hCG in urine or blood within 3-4 weeks of the last menstrual period is the most reliable indicator for the confirmation of pregnancy. hCG is initially secreted by the trophoblast, and later by the chorion and placenta. Levels rise exponentially to a peak during the first trimester, declining to a plateau during the second and third trimesters. Measurement of hCG has also been applied in the diagnosis of ectopic pregnancy, threatened abortion, and multiple gestation. [1,2,3,4]

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

REJECTION CRITERIA: Plasma or other body fluids. Gross hemolysis

METHOD: Enhanced Chemiluminescence.

REFERENCES:
1. Saxena B, Landesman R. Diagnosis and Management of Pregnancy by the Receptor Assay of Human Chorionic Gonadotropin. *Am J Obstet Gynecol*. 131: 97-107; 1978.
2. Hertz JB et al. Progesterone and Human Chorionic Gonadotropin in Serum and Pregnandiol in Urine in Treated Abortion. *Acta Obstet Gynecol Scand*. 59: 23-27; 1980.
3. Braunstein GD et al. First-trimester Chorionic Gonadotropin measurements as an aid in the Diagnosis of early Pregnancy Disorders. *Am J Obstet Gynecol*. 13:25–32; 1978.
4. Check JH et al. Analysis of Serum Human Chorionic Gonadotropin Levels in Normal Singleton, Multiple and Abnormal Pregnancies. *Human Reproduction*. 7:1176–1180; 1992.

Normal Range:

Approximate Gestational Age	Approximate hCG Range (mIU/mL)		
0-1 Week	0	-	50
1-2 Weeks	40	-	300
2-3 Weeks	100	-	1,000
3-4 Weeks	500	-	6,000
1-2 Months	5,000	-	200,000
2-3 Months	10,000	-	100,000
2nd Trimester	3,000	-	50,000
3rd Trimester	1,000	-	50,000

For males and non-pregnant females: < 5.0 mIU/mL
Postmenopausal females: 0.1-11.6 mIU/mL

Turnaround Time: 1 business day