

**Clinical Use**

- Diagnose pregnancy
- Diagnose chorionic tumors and ectopic hCG-producing tumors



**Reference Range**

	mIU/mL
Men	<5
Women	
Non-pregnant, premenopausal	<5
Postmenopausal	<10
Pregnant	Expected*
<1 wk	5-50
1-2 wk	50-500
2-3 wk	100-5,000
3-4 wk	500-10,000
4-5 wk	1,000-50,000
5-6 wk	10,000-100,000
6-8 wk	15,000-200,000
2-3 mo	10,000-100,000

\*Bayer Centaur product insert

Values from different assay methods may vary.

**Interpretive Information**

-  • Pregnancy
- Trophoblastic tumors
- Gonadal germ cell tumors
- Midline trophoblastic tumors
  
-  • Ectopic pregnancy (relative to uterine pregnancy)

**Clinical Background**

Human chorionic gonadotropin (hCG) is secreted by the developing placenta often as early as 6 days after conception; maximal production and peak serum levels occur during the first trimester but remain significant throughout gestation. The immunochemiluminometric assay for serum hCG provides a fast and accurate test for pregnancy. Because the assay is highly sensitive, it is useful for early determination of pregnancy when hCG levels are relatively low.

A variety of other tissues are capable of hCG production, and increased levels in men or in nonpregnant women suggest neoplasia. In this context, hCG levels >10,000 mIU/mL occur only in germ cell tumors, in patients with trophoblastic differentiation of a lung or gastric primary cancer, or in women with gestational trophoblastic disease. Levels are prognostic in germ cell tumors: <5,000 mIU/mL indicates good prognosis; 5,000 to 50,000 mIU/mL indicates intermediate prognosis; and >50,000 mIU/mL indicates poor prognosis.

hCG measurement also is appropriate in the evaluation of men with gynecostasia and boys with isosexual precocious puberty to diagnose testicular malignancies.

**Method**

- Immunochemiluminometric assay (ICMA)
- Analytical sensitivity: 2 mIU/mL
- Analytical specificity: detects intact and free beta hCG

**Specimen Requirements**

1 mL refrigerated serum  
 0.4 mL minimum  
 No additive red top preferred  
 SST red top acceptable