**Clinical Use**
- Diagnose and manage pituitary, placental, and pancreatic tumors

**Reference Range**

<table>
<thead>
<tr>
<th></th>
<th>ng/mL</th>
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<tbody>
<tr>
<td>Men</td>
<td>≤0.6</td>
</tr>
<tr>
<td>Women</td>
<td></td>
</tr>
<tr>
<td>Premenopausal</td>
<td>≤1.5</td>
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<tr>
<td>Postmenopausal</td>
<td>0.9-3.3</td>
</tr>
<tr>
<td>Hypothyroid</td>
<td>≤3.7</td>
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<tr>
<td>Pregnant or hCG-producing tumors</td>
<td>1.8-360*</td>
</tr>
</tbody>
</table>

*Varies with concentration of hCG

**Interpretive Information**
- Pregnancy
- Choriocarcinoma
- Hydatidiform mole
- Pituitary adenomas (selected)
- Hypopituitarism

**Clinical Background**
The pituitary glycoprotein hormones—thyroid stimulating hormone (TSH), luteinizing hormone (LH), and follicle stimulating hormone (FSH)—are comprised of identical alpha subunits and unique beta subunits that confer biological specificity. Some pituitary adenomas unassociated with a clinical syndrome of hormonal over secretion produce the alpha subunit, which serves as a useful tumor marker. Measurement of the alpha subunit can be useful in differentiating TSH-secreting pituitary adenomas, in which the ratio of alpha-to-intact TSH serum concentrations is >1, from thyroid hormone resistance syndromes, in which the ratio is ≤1.

Gonadotropin-secreting pituitary adenomas producing excessive alpha subunit have been reported. Non-pituitary tumors, eg, choriocarcinoma and carcinoid tumors, secreting the alpha subunit have also been described.

**Method**
- Radioimmunoassay (RIA)
- Analytical sensitivity: 0.1 ng/mL at 90% B/Bo
- Analytical specificity: cross-reactivity is 1.4% with intact hCG, <0.01% with beta subunit hCG, 4.5% with LH, 3.4% with FSH, and 2.0% with TSH

**Specimen Requirements**
- 2 mL refrigerated serum
- 0.3 mL minimum

No additive red top preferred
SST red top acceptable