Clinical Use
- Diagnose (and differential diagnosis of) gonadal dysfunction
- Monitor LH suppressive (Lupron®) therapy
- Applicable to pediatric samples

Reference Range

<table>
<thead>
<tr>
<th>Children</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7 y</td>
<td>≤0.10</td>
<td>≤0.45</td>
</tr>
<tr>
<td>8-9 y</td>
<td>≤0.44</td>
<td>≤3.36</td>
</tr>
<tr>
<td>10-11 y</td>
<td>≤2.28</td>
<td>≤5.65</td>
</tr>
<tr>
<td>12-14 y</td>
<td>0.31-5.29</td>
<td>≤11.00</td>
</tr>
<tr>
<td>15-17 y</td>
<td>0.15-5.33</td>
<td>≤15.80</td>
</tr>
</tbody>
</table>

Interpretive Information
- Primary hypogonadism
- Gonadotropin-secreting pituitary tumors
- Hypothalamic GnRH deficiency
- Pituitary LH deficiency

Clinical Background
Luteinizing hormone (LH, lutropin) is produced by the anterior pituitary gland. Production is regulated by hypothalamic gonadotropin releasing hormone (GnRH). LH stimulates ovulation and ovarian steroid hormone production in the female and testosterone secretion by the testes in the male.

GnRH and LH secretion are regulated by negative feedback systems, whereby reduced levels of gonadal hormones stimulate and increased levels inhibit circulating LH concentrations.

LH levels are useful in assessing disorders of gonadal function.

GnRH stimulation of LH is a useful provocative test in selected patients with delayed puberty and in confirming pituitary hypofunction in secondary hypogonadism.

Method
- Electrochemiluminescence assay (ECL)
- Analytical sensitivity: 0.03 mIU/mL
- Analytical specificity: 1.1% cross-reactivity with TSH; no cross-reactivity with FSH, GH, hCG, or prolactin

Specimen Requirements
- 0.5 mL refrigerated serum
- 0.2 mL minimum
- No additive red top preferred
- SST red top acceptable