Clinical Use
• Differential diagnosis of acromegaly

Reference Range

<table>
<thead>
<tr>
<th>Group</th>
<th>Reference Range (pg/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults &lt; 49</td>
<td>≤49</td>
</tr>
<tr>
<td>Children (4-14 y)</td>
<td>6.8-19.0</td>
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</tbody>
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Interpretive Information
• Ectopic GHRH production
• Pregnancy (maternal and fetal samples)

Clinical Background
Growth hormone releasing hormone (GHRH) is secreted by the hypothalamus and stimulates the pituitary to release growth hormone. GHRH deficiency is probably the most common cause of growth hormone deficiency in man.

Acromegaly results from hypersecretion of growth hormone and is due, in over 99% of cases, to a primary pituitary tumor. The remaining cases result from GHRH hypersecretion due to hypothalamic tumor or peripheral tumors (pancreatic islet tumors, bronchial or thymic carcinoid tumors, and rarely neuroendocrine tumors). In patients with acromegaly due to ectopic GHRH secretion, peripheral GHRH levels are elevated.

The differential diagnosis between a pituitary tumor and ectopic GHRH hypersecretion is achieved by measuring peripheral GHRH levels. Circulating GHRH is nonhypothalamic in origin.

Method
• Extraction, radioimmunoassay (RIA)
• Analytical sensitivity: 16 pg/mL

Specimen Requirements
4 mL frozen plasma
1.1 mL minimum

Collect in special PTH-Related Protein (PTH-RP) and Releasing Factors tube provided by Quest Diagnostics Nichols Institute. Centrifuge immediately in refrigerated centrifuge, separate plasma, and freeze.