

# Insulin-like Growth Factor 1 (IGF-1), LC/MS

**CPT Code:** 84305

**Order Code:** 16293

**Synonyms:** IGF1, Somatomedin-C, Insulin Like Growth Factor

**ABN Requirement:** No

**Specimen:** Serum

**Volume:** 0.5 mL

**Minimum Volume:** 0.3 mL

**Container:** Gel-barrier tube (SST)

## **Collection:**

1. Collect and label sample according to standard protocols.
2. Gently invert tube 5 times immediately after draw. DO NOT SHAKE.
3. Allow blood to clot 30 minutes.
4. Centrifuge for 10 minutes.

**Transport:** Store serum at 2°C to 8°C after collection and ship the same day per packaging instructions included with the provided shipping box.

**Special Instructions:** Collect blood in a red-top or SST vacutainer. For red-top vacutainers, allow blood to clot (10-15 minutes) at room temperature. Separate serum from cells and refrigerate.

## **Stability:**

**Ambient (15-25°C):** 48 hours

**Refrigerated (2-8°C):** 7 days

**Frozen (-20°C):** 60 days

**Causes for Rejection:** Moderate hemolysis

**Methodology:** Liquid Chromatography/Mass Spectrometry (LC/MS)

**Turn Around Time:** 3-6 days

**Reference Range(s):**

<b>Pediatric</b>	<b>Male (ng/mL)</b>	<b>Female (ng/mL)</b>
<b>&lt;1 year</b>	14-142	17-185
<b>1-1.9 years</b>	12-134	15-175
<b>2-2.9 years</b>	12-135	16-179
<b>3-3.9 years</b>	30-155	38-214
<b>4-4.9 years</b>	28-181	34-238
<b>5-5.9 years</b>	31-214	37-272
<b>6-6.9 years</b>	38-253	45-316
<b>7-7.9 years</b>	48-298	58-367
<b>8-8.9 years</b>	62-347	76-424
<b>9-9.9 years</b>	80-398	99-483
<b>10-10.9 years</b>	100-449	125-541
<b>11-11.9 years</b>	123-497	152-593
<b>12-12.9 years</b>	146-541	178-636
<b>13-13.9 years</b>	168-576	200-664
<b>14-14.9 years</b>	187-599	214-673
<b>15-15.9 years</b>	201-609	218-659
<b>16-16.9 years</b>	209-602	208-619
<b>17-17.9 years</b>	207-576	185-551

<b>Adult</b>	<b>ng/mL</b>
<b>18-19.9 years</b>	108-548
<b>20-24.9 years</b>	83-456
<b>25-29.9 years</b>	63-373
<b>30-39.9 years</b>	53-331
<b>40-49.9 years</b>	52-328
<b>50-59.9 years</b>	50-317
<b>60-69.9 years</b>	41-279
<b>70-79.9 years</b>	34-245

<b>&gt;80 years</b>	34-246
<b>Z-Scores</b>	-2.0 - +2.0

**Clinical Significance:** Insulin-like Growth Factor 1 (IGF-1 or Somatomedin C), a protein involved in stimulating somatic growth, is regulated principally by Growth Hormone (GH) and nutritional intake. IGF-1 is transported in serum by several proteins; this helps maintain relatively high IGF-1 plasma levels and minimizes fluctuations in serum IGF-1 concentrations.

Measuring IGF-1 is useful in several growth-related disorders. Dwarfism caused by deficiency of growth hormone (hypopituitarism) results in decreased serum levels of IGF-1, while acromegaly (growth hormone excess) results in elevated levels of IGF-1. IGF-1 measurements are also helpful in assessing nutritional status; levels are reduced in undernutrition and restored with a proper diet.

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