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**Lab Dept:** Chemistry

**Test Name:** GROWTH HORMONE, SINGLE, SERUM

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***General Information***

**Lab Order Codes:** HGH

**Synonyms:** HGH; Somatotropin

**CPT Codes:** 83003 - Growth hormone, human (HGH)

**Test Includes:** Single growth hormone level reported in ng/mL.

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***Logistics***

**Test Indications:** Excess Growth Hormone secretion is associated with acromegaly in adults or pituitary gigantism in children, while a deficiency may cause short stature in children.

**Lab Testing Sections:** Chemistry (St. Paul Campus)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 - 3 days, test performed Monday - Friday

**Special Instructions:** Follow physician's protocol for administering provocative stimuli and drawing specimens. See [Patient Preparation](#).

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***Specimen***

**Specimen Type:** Blood

**Container:** SST (Gold, marble or red) preferred  
Alternate: Lavender EDTA or Green Heparin

**Draw Volume:** 1.5 mL (Minimum: 0.6 mL) blood

**Processed Volume:** 0.5 mL (Minimum: 0.2 mL) serum

**Collection:** Routine venipuncture or line draw

**Special Processing:** Lab Staff: Centrifuge specimen within 1 hour of draw, remove serum aliquot into a screw-capped round bottom plastic vial. Freeze immediately. Ship to St. Paul frozen.

**Patient Preparation:** See [Special Instructions](#). In addition, patient must be fasting and at complete rest 30 minutes before blood collection.

**Sample Rejection:** Mislabeled or unlabeled specimens; improper storage; gross hemolysis

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***Interpretive***

**Reference Range:**

Age	Result Range
0 - 1 day	5 - 53 ng/mL
1 day - 1 week	5 - 27 ng/mL
2 weeks - 12 months	2 - 10 ng/mL
>12 months:	0 – 6 ng/mL
<b>Response Testing (Children and Adults):</b>	Following provocative stimuli, a normal response is a rise to 10 ng/mL or greater. Intermediate values between 7 ng/mL and 10 ng/mL may indicate a partial deficiency and require further evaluation.

**Critical Values:** N/A

**Limitations:** Patients on hGH therapy may develop human antibodies to hGH that will interfere with the test and cause falsely low levels.

**Methodology:** Chemiluminescent competitive immunoassay

**References:** DPC End User Procedure Manual Disk #0408111 (2005)

Siemens Immulite Recombinant 98/574 hGH product insert (09/08/2010) PIL2KGRH-7

National Committee for Clinical Laboratory Standards (NCCLS) (2002) Clinical Laboratory Technical Procedure Manuals; Approved Guideline-Fourth Edition GP2-A4

Expected Values and S.I. Unit Conversion Tables, 2nd Edition, Endocrine Sciences, 4301 Lost Hills Rd, Calabasas Hills, CA 91301

Biorad Immunoassay Plus Control Product Insert

Burtis, CA, Ashwood, ER, Bruns, DE, ed (2006) Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 4<sup>th</sup> Edition, Philadelphia: W.B. Saunders

Jacobs and DeMott Laboratory Test handbook (2001) 5th Edition, Lexi-comp Inc

**Updates:**

10/7/2016: Updated tube type.

6/26/2017: Added alternate tube types.