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**Lab Dept:** Chemistry

**Test Name:** SEX HORMONE BINDING GLOBULIN

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***General Information***

**Lab Order Codes:** SHBG1

**Synonyms:** SHBG

**CPT Codes:** 84270 - Sex hormone binding globulin (protein) level

**Test Includes:** Sex Hormone Binding Globulin level reported in nmol/L.

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***Logistics***

**Test indications:** Diagnosis and follow-up of women with symptoms or signs of androgen excess (eg, polycystic ovarian syndrome and idiopathic hirsutism). An adjunct in monitoring sex-steroid and antiandrogen therapy. An adjunct in the diagnosis of disorders of puberty. An adjunct in the diagnosis and follow-up of anorexia nervosa. An adjunct in the diagnosis of thyrotoxicosis (tissue marker of thyroid hormone excess). A possible adjunct in diagnosis and follow-up of insulin resistance and cardiovascular and type 2 diabetes risk assessment, particularly in women.

**Lab Testing Sections:** Chemistry - Sendouts

**Referred to:** Mayo Clinic Laboratories (Mayo test: SHBG1)

**Phone Numbers:** MIN Lab: 612-813-8280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 – 3 days, performed Monday - Saturday

**Special Instructions:** N/A

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***Specimen***

**Specimen Type:** Blood

**Container:** SST (Gold, marble or red) tube

**Draw Volume:** 3 mL (Minimum: 1.5 mL) blood

<b>Processed Volume:</b>	1 ml (Minimum: 0.5 mL) serum
<b>Collection:</b>	Routine blood collection
<b>Special Processing:</b>	Lab Staff: Centrifuge specimen, remove serum aliquot, store and send at refrigerated temperatures. Forward promptly.
<b>Patient Preparation:</b>	N/A
<b>Sample Rejection:</b>	Gross hemolysis; mislabeled or unlabeled specimens

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***Interpretive***

**Reference Range:**

<b>Males</b>		
<b>Tanner Stages</b>	<b>Mean Age</b>	<b>Range (nmol/L)</b>
Stage I	10.4	17 - 135
Stage II	11.1	21 - 114
Stage III	12.7	12 - 138
Stage IV	14.5	7.7 - 67
Stage V	14.2	3.9 - 40
≥18 years	13.3 – 89.5 nmol/L	
<b>Females</b>		
Stage I	10.5	16 - 182
Stage II	10.9	24 - 121
Stage III	12.5	18 - 87
Stage IV	14	7.7 - 108
Stage V	14.9	10 - 79
18 – 46 years	18.2 – 135.5 nmol/L	
47 – 91 years, post-menopausal	16.8 – 125.2 nmol/L	

**Critical Values:** N/A

**Limitations:**

In rare cases, interference due to extremely high titer of antibodies to analyte-specific reagents (human antimouse or heterophile antibodies) can occur. The laboratory should be alerted if the result does not correlate with the clinical presentation. For patients presenting with cirrhosis or sub-clinical thyroid conditions, carefully evaluate results as these conditions can potentially cause erroneous sex hormone-binding globulin results.

**Methodology:**

Immunoenzymatic Assay

**References:**

[Mayo Clinic Laboratories](#) (October 2021)