

TEST CHANGE

Testosterone, Bioavailable and Total, Includes Sex Hormone-Binding Globulin (Adult Females, Children, or Individuals on Testosterone-Suppressing Hormone Therapy)

0081057, BIO T MASS

Specimen Requirements:

Patient Preparation: Collect between 6-10 a.m.

Collect: Serum separator tube or green (sodium or lithium heparin).

Specimen Preparation: Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP [standard transport tube](#). ~~Standard Transport Tube~~. (Min: 0.8 mL)

Transport Temperature: Refrigerated.

Unacceptable Conditions: EDTA plasma.

Remarks:

Stability: After separation from cells: Ambient: 24 hours; Refrigerated: 1 week; Frozen: 6 months

Methodology: Quantitative High Performance Liquid Chromatography-Tandem Mass Spectrometry/Electrochemiluminescent Immunoassay/Calculation

Performed: Sun-Sat

Reported: 1-54 days

Note: The concentrations of free and bioavailable testosterone are derived from mathematical expressions based on constants for the binding of testosterone to albumin and/or sex hormone binding globulin.

CPT Codes: 84402; 84403; 84270

New York DOH Approval Status: This test is New York DOH approved.

Interpretive Data:

Bioavailable testosterone concentration is calculated using total testosterone (measured by mass spectrometry) and the binding constant of testosterone and sex hormone-binding globulin (SHBG) and/or albumin.

For individuals on testosterone-suppressing hormone therapies (e.g., antiandrogens or estrogens),

refer to cisgender female reference intervals. For a complete set of all established reference intervals, refer to ltd.aruplab.com/Tests/Pub/0081057.

~~This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.~~

Reference Interval:

Test Number	Components	Reference Interval		
	Testosterone by Mass Spec			
		Age	Male (ng/dL)	Female (ng/dL)
		Premature (26-28 weeks)	59-125	5-16
		Premature (31-35 weeks)	37-198	5-22
		Newborn	75-400	20-64
		1-5 months	14-363	Less than 20
		6-24 months	Less than 37	Less than 9
		2-3 years	Less than 15	Less than 20
		4-5 years	Less than 19	Less than 30
		6-7 years	Less than 13	Less than 7
		8-9 years	2-8	1-11
		10-11 years	2-165	3-32
		12-13 years	3-619	6-50
		14-15 years	31-733	6-52
		16-17 years	158-826	9-58
		18-39 years	300-1080	9-55
		40-59 years	300-890	9-55
		60 years and older	300-720	5-32
		Premenopausal (18 years and older)	Not Applicable	9-55
		Postmenopausal	Not Applicable	5-32
		Tanner Stage I	2-15	2-17
		Tanner Stage II	3-303	5-40
		Tanner Stage III	10-851	10-63
		Tanner Stage IV-V	162-847	11-62
	Testosterone, Free by Mass Spec			

		Age	Male (pg/mL)	Female (pg/mL)
		1-6 years	Less than 0.6	Less than 0.6
		7-9 years	0.1-0.9	0.6-1.8
		10-11	0.1-6.3	0.1-3.5
		12-13	0.5-98.0	0.9-6.8
		14-15	3-138.0	1.2-7.5
		16-17	38.0-173.0	1.2-9.9
		18 years and older	47-244	Not Applicable
		18-30	Not Applicable	0.8-7.4
		31-40	Not Applicable	1.3-9.2
		41-51	Not Applicable	1.1-5.8
		Postmenopausal	Not Applicable	0.6-3.8
		Tanner Stage I	Less than or equal to 3.7	Less than 2.2
		Tanner Stage II	0.3-21	0.4-4.5
		Tanner Stage III	1.0-98.0	1.3-7.5
		Tanner Stage IV	35.0-169.0	1.1-15.5
		Tanner Stage V	41.0-239.0	0.8-9.2
	Testosterone, Bioavailable by Mass Spec			
		Age	Male (ng/dL)	Female (ng/dL)
		1-6 years	Less than 1.3	Less than 1.3
		7-9 years	0.3-2.8	0.3-5.0
		10-11 years	0.1-17.9	0.4-9.6
		12-13 years	1.4-288.0	1.7-18.8
		14-15 years	9.5-337.0	3.0-22.6
		16-17 years	35.0-509.0	3.3-28.6
		18 years and older	130.0-680.0	Not Applicable
		18-30 years	Not Applicable	2.2-20.6
		31-40 years	Not Applicable	4.1-25.5
		41-51 years	Not Applicable	2.8-16.5
		Postmenopausal	Not Applicable	1.5-9.4
		Tanner Stage I	0.3-13.0	0.3-5.5
		Tanner Stage II	0.3-59.0	1.2-15.0
		Tanner Stage III	1.9-296.0	3.8-28.0
		Tanner Stage IV	40.0-485.0	2.8-39.0
		Tanner Stage IV	124.0-596.0	2.5-23.0
	Sex Hormone Binding Globulin			

Age	Male (nmol/L)	Female (nmol/L)
1-30 days	13-85	14-60
31-364 days	70-250	60-215
1-3 years	50-180	60-190
4-6 years	45-175	55-170
7-9 years	28-190	35-170
10-12 years	23-160	17-155
13-15 years	13-140	11-120
16-17 years	10-60	19-145
18-49 years	17-56	25-122
50 years and older	19-76	17-125
Tanner Stage I	26-186	30-173
Tanner Stage II	22-169	16-127
Tanner Stage III	13-104	12-98
Tanner Stage IV	11-60	14-151
Tanner Stage V	11-71	23-165

