

FREE ANDROGEN
INDEX and
CALCULATED FREE
AND BIOAVAILABLE
TESTOSTERONE,
PLASMA/
SERUM

Orderable - FAI

Turnaround Time: 5 days

Alternate Name(s):

FAI
Free Testosterone
Bioavailable Testosterone

Specimen:

Adult	Pediatric
4.5 mL Light Green top Vacutainer tube	0-2 years: 0.5 mL Light Green top Microtainer 2-10 years: 3 mL Light Green top Vacutainer tube
Red or Gold top tubes are also acceptable	
Lavender top (EDTA) tubes are NOT acceptable	

Collection Information:

Minimum volume of plasma or serum required is 700 µL for adult samples or 200 µL for pediatric samples.

Reference Ranges:

Male			
Age (Years)	Free Testosterone (Calculated) (pmol/L)	Bioavailable Testosterone (Calculated) (nmol/L)	Free Androgen Index (%)
0-<1*	0.1-198.4	≤4.23	≤32.7
1-<9	≤4.5	≤0.72	≤0.6
9-<12	1.4-250.6	≤7.39	0.1-34.7
12-<14	≤435.0	≤7.39	0.1-34.7
14-<20	13.0-670.0	0.42-12.00	3.6-83.3
20-<50	198.0-619.0	4.36-14.30	35.0-92.6
≥50	163.0-473.0	3.59-11.00	24.3-72.1



Laboratory:
Core Lab



Requisition:
GENERAL LABORATORY
REQUISITION



Method of Analysis:
Roche
Electrochemiluminescence



Test Schedule:
Monday - Friday
0800-1600

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Female			
<u>Age (Years)</u>	<u>Free Testosterone (Calculated) (pmol/L)</u>	<u>Bioavailable Testosterone (Calculated) (nmol/L)</u>	<u>Free Androgen Index (%)</u>
0-<1*	0.3-9.1	≤0.21	≤1.3
1-<6	≤4.5	≤0.21	≤1.3
6-<9	0.3-10.5	≤0.21	≤1.3
9-<14	0.5-16.4	≤0.38	0.1-2.6
14-<20	1.0-34.3	0.13-0.80	0.6-6.5
20-<50	3.0-33.0	0.06-0.76	0.3-5.6
≥50	1.0-20.0	≤0.43	0.2-3.6

*Reference interval for 0-<1 year is for infants born at term.

Please note new pediatric reference intervals for the free androgen index as of January 15, 2024.

Comments:

Free testosterone and bioavailable testosterone are calculated based on equations from Vermeulen A et al. J Clin Endocrinol Metab. 1999. 84(10):3666-3672.

FAI = total testosterone (nmol/L)/SHBG (nmol/L) expressed as a percentage.

Results should be interpreted with caution in patients with greatly abnormal albumin concentrations.

Biotin may interfere with this test. Samples should not be taken from patients receiving high biotin doses (i.e. >5 mg/day) until at least 8 hours after the last biotin administration.

Storage and Shipment:

Store and ship plasma or serum refrigerated.