

FREE T4,
PLASMA
/SERUM

Orderable – FT4

Turnaround Time: 4 hours

Alternate Name(s):

Free Thyroxine
FT4

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, Gold, or Lavender (EDTA) top tubes are also acceptable	

Collection Information:

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

Reference Ranges:

Age	Range
0 - 6 days:	11 - 32 pmol/L
6 days - 3 months:	12 - 28 pmol/L
3 - 12 months:	12 - 26 pmol/L
1 - 6 years:	12 - 23 pmol/L
6 - 11 years:	13 - 22 pmol/L
11 - 20 years:	13 - 21 pmol/L
> 20 years:	12 - 22 pmol/L
First Trimester of Pregnancy:	12 - 20 pmol/L
Second Trimester of Pregnancy:	10 - 17 pmol/L
Third Trimester of Pregnancy:	8 - 16 pmol/L



Laboratory:
Core Lab




Requisition:
GENERAL LABORATORY
REQUISITION



Method of Analysis:
Roche
Electrochemiluminescence



Test Schedule:
As required



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Comments:

TSH should be the initial test to screen for clinically-suspected hypothyroidism or hyperthyroidism. If TSH is below the lower cut-off, FT4 and FT3 testing will be performed reflexively by the laboratory. If TSH is between the lower and upper cut-offs, no FT4 or FT3 testing will be performed reflexively. If TSH is above the upper cut-off, FT4 testing will be performed reflexively by the laboratory. These cut-offs are the TSH reference intervals in children and the optimal cut-offs to predict abnormal FT4 levels in adults.

The TSH cut-offs are:

2 – <6 years: <0.70 or >5.97 mIU/L

6 – <11 years: <0.60 or >4.84 mIU/L

11 – <18 years: <0.51 or >4.30 mIU/L

≥18 years: <0.58 or >6.30 mIU/L

FT3 and/or FT4 testing should only be ordered directly for patients:

- With known or suspected pituitary/hypothalamic disease
- Being treated for primary hyperthyroidism, severe hyperthyroidism (thyroid storm), or severe hypothyroidism (myxedema coma)
- With resistance to thyroid hormones
- Treated with lithium carbonate, an anticonvulsant, or amiodarone
- Who are pregnant
- Under 2 years of age

Furosemide may cause elevated free T4 results.