FERRITIN, PLASMA/ SERUM

London Health Sciences Centre | St. Joseph's Health Care London

Pathology and Laboratory Medicine

Orderable - FER

Turnaround Time: 4 hours **STAT: 1 hour**

Laboratory:
Core Lab

Requisition:
GENERAL LABORATORY REQUISITION

Method of Analysis:
Roche
Electrochemiluminescence

Test Schedule:
As required

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:

Male	
Age	**Range**
0 – <1 month:	150.0 – 973.0 µg/L[1]
1 – <6 months:	20.0 – 580.0 0 µg/L[1,2]
6 months – <14 years:	20.0 – 101.0 µg//L[1,2]
14 – <18 years	30.0 – 201.1 µg/L[2,3]
≥18 years:	30.0 – 408.5 µg/L[2,3]

Female	
Age	**Range**
0 – <1 month:	150.0 – 973.0 µg/L[1]
1 – <6 months:	20.0 – 580.0 0 µg/L[1,2]
6 months – <12 years	20.0 – 101.0 µg/L[1,2]
12 – <18 years:	30.0 – 114.6 µg/L [2,3]
18-<51 years:	30.0-175.2 µg/L[2,3]
≥51 years:	30.0 - 327.8 µg/L [2,3]

For pre-pubertal patients ≥1 month, a ferritin concentration <20.0 µg/L is consistent with iron deficiency and 20.0 – 50.0 µg/L represents probable iron deficiency.
For post-pubertal patients, a ferritin concentration <30.0 µg/L is consistent with iron deficiency and 30.0 – 50.0 µg/L represents probable iron deficiency.

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Ferritin is a positive acute phase reactant and may be elevated in the presence of inflammation. Therefore, in patients with inflammation, ferritin testing may not be sufficient for diagnosis of iron deficiency.

1. Bohn MK, Higgins V, Asgari S, Leung F, Hoffman B, Macri J, Adeli, K. (2019). Paediatric reference intervals for 17 Roche cobas 8000 e602 immunoassays in the CALIPER cohort of healthy children and adolescents. Clin Chem Lab Med. 57(12):1968-1979. DOI: 10.1515/cclm-2019-0707.
2. Naveed K, Goldberg N, Shore E, Dhoot A, Gabrielson D, Goodarzi Z, Lin Y, Pai M, Pardy NA, Robinson S, Andreou R, Sood M, Price V, Storm S, Verduyn A, Parker ML, Fralick M, Beriault D, Sholzberg M. (2023). Defining ferritin clinical decision limits to improve diagnosis and treatment of iron deficiency: A modified Delphi study. Int J Lab Hematol. 45:377-386. DOI: 10.1111/ijlh.14016.
3. Snozek CLH, Spears GM, Porco AB, Erb S, Kaleta EJ, Bryant SC, Baumann NA. (2021). Updated ferritin reference intervals for the Roche Elecsys immunoassay. Clin Biochem. 87:100-103. DOI: 10.1016/j.clinbiochem.2020.11.006.

Please note change in reference intervals as of July 8, 2024.

Interpretive Comments:

Starting at a hemolysis index of 100, the following comment will be given: “Interpret ferritin result with caution since hemolysis may artificially increase result.”
Starting at a hemolysis index of 500, the test will be cancelled.

Comments:

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.