
Lab Dept: Chemistry

Test Name: IGG SUBCLASSES

General Information

Lab Order Codes: IGGS

Synonyms: Immunoglobulin G Subclasses, Serum

CPT Codes: 82784 – Gammaglobulin; IgG
82787 x4 – Gammaglobulin; immunoglobulin subclasses

Test Includes: Total IgG concentration and IgG subclass 1-4 concentrations reported in mg/dL.

Logistics

Test Indications: Immunoglobulins, also known as humoral antibodies, recognize antigens and initiate mechanisms that destroy antigens. Its major function appears to be neutralization of toxins (bacterial or viral), in tissue spaces. IgG has four subclasses that are slightly different in structure of their variable regions and in electrophoretic mobility.

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Clinic Laboratories (Mayo Test: IGGS)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 1-3 days

Special Instructions: N/A

Specimen

Specimen Type: Blood

Container: Red, marble or gold top serum or serum separator gel tube

Draw Volume: 3.0 (minimum 3.0) mL blood

Processed Volume: 1.0 (minimum 1.0) mL serum

Collection: Routine venipuncture

Special Processing: Lab Staff: Centrifuge specimen, remove serum aliquot into a plastic vial. Store and ship at refrigerated temperatures.

Serum specimen stable refrigerated (preferred), ambient or frozen for 14 days.

Patient Preparation: Patient fasting preferred but not required

Sample Rejection: Mislabeled or unlabeled specimen; lipemic samples

Interpretive

Reference Range:

IgG Total	
Age:	Range mg/dL:
0 - <5 months	100 – 334 mg/dL
5 - <9 months	164 – 588 mg/dL
9 - <15 months	246 - 904 mg/dL
15 - <24 months:	313 - 1710 mg/dL
2 - <4 years:	295 - 1156 mg/dL
4 - <7 years:	386 - 1470 mg/dL
7 - <10 years	462 – 1682 mg/dL
10 - <13 years	503 - 1719 mg/dL
13 - <16 years	509 – 1580 mg/dL
16 - <18 years	487 – 1327 mg/dL
≥18 years:	734 - 1590 mg/dL
IgG Subclasses:	

Age:	G1 (mg/dL)	G2 (mg/dL)	G3 (mg/dL)	G4 (mg/dL)
0 - <5 mos:	56 - 215	≤82	7.6 – 82.3	≤ 19.8
5 - <9 mos:	102 - 369	≤89	11.9 – 74.0	≤ 20.8
9 - <15 mos:	160 - 562	24 - 98	17.3 – 63.7	≤ 22.0
15 – <24 mos:	209 - 724	35 – 105	21.9 – 55.0	≤ 23.0
2 - <4 yrs:	158 - 721	39 - 176	17.0 – 84.7	≤ 49.1
4 - <7 yrs:	209 - 902	44 - 316	10.8 – 94.9	≤ 81.9
7 - <10 years	253 - 1019	54 - 435	8.5 – 102.6	1.0 – 108.7
10 - <13 years	280 - 1030	66 - 502	11.5 – 105.3	1.0 – 121.9
13 - <16 yrs:	289 - 934	82 - 516	20.0 – 103.2	≤ 121.7
16 - <18 yrs:	283 - 772	98 - 486	31.3 – 97.6	≤ 111.0
≥18 yrs:	341 - 894	171 - 632	18.4 – 106.0	2.4 – 121.0

Critical Values:

N/A

Limitations:

Measurements of immunoglobulin G (IgG) subclass proteins is not a first-order test in patients suspected of having an immunodeficiency disease. Quantitation of IgG, IgA, IgM levels, along with other first-order tests for immunodeficiency, should be performed first.

Methodology:

Turbidimetry

References:

[Mayo Clinic Laboratories](#) (March 2023)

Updates:

10/28/2020: Testing moved from inhouse to Mayo

3/28/2023: Change in methodology, change in reference range for G4 for some age groups, added age group 7-10 years to reference ranges for IgG total, added minimum volumes, added preferred patient preparation instruction.

7/27/2023: Minimum volume raised to 3 mL blood (1 mL serum)