

## Division of Laboratory Medicine

Immunology

### IgG subclasses

#### General information

IgG1, IgG2, IgG3, IgG4

IgG1, IgG3 & IgG4 immunoglobulins are predominantly directed against protein antigens, while IgG2 antibodies are directed towards polysaccharide antigens. IgG1 is the major contributor to total IgG.

Low IgG1 can be seen in primary or secondary immunodeficiency but often does not occur in isolation. Low IgG2 concentration may be observed in individuals susceptible to bacterial infections. The clinical significance of low/absent IgG3 and IgG4 is uncertain.

**Specimen transport:** At room temperature

**Repeat frequency:** Not within 6 months

**Special precautions:** None

#### Laboratory information

Age	IgG1 g/l	IgG2 g/L	IgG3 g/L	IgG4 g/L
0-2 years	1.94-8.42	0.22-3.0	0.186-0.853	0.005-0.784
2-4 years	3.15-9.45	0.36-2.25	0.173-0.673	0.01-0.537
4-6 years	3.06-9.45	0.60-3.45	0.099-1.221	0.018-1.125
6-8 years	2.88-9.18	0.44-3.75	0.155-0.853	0.004-0.992
8-10 years	4.32-10.2	0.72-4.3	0.127-0.853	0.019-0.93
10-12 years	4.23-10.6	0.76-3.55	0.173-1.73	0.016-1.150
12-14 years	3.42-11.5	1.0-4.55	0.283-1.25	0.037-1.360
14-18 years	3.15-8.55	0.64-4.95	2.30-19.6	0.11-1.57
>18 years	3.82-9.28	2.41-7.00	0.21-1.76	0.039-0.864

**Normal reference range:** Age and gender specific

**Volume and sample type:** 7ml clotted blood

**Method:** Turbidimetry

**Turnaround time** (calendar days from sample receipt to authorised result): IgG 1, 2, 3 and 4: Median - 4

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**Participation in EQA Scheme:** UK NEQAS for IgG SUBCLASSES

### Clinical information

**Indications for the test:** History of bacterial sinopulmonary infection and IgG between 5-16g/L. History of/or failure to respond to polysaccharide vaccines, pancreatitis (history of recurrent infections - not viral), or abscesses or (failure to respond to immunisation) AND (Total IgG < 0.1 g/l).  
Samples not meeting these requirements will be rejected.

**Factors affecting the test:** None

**ICE reference:** IGG2 Subclass or IGG4 Subclass

**(Last updated December 2020)**