



# High- Q Immunoglobulin Assays



Command on Quality

**Pariksha  
Biotech**

A game changer in IVD

## Immunoglobulin Assessment in the Blood:

This Immunoglobulin testing is the quantitative measurement of immunoglobulins, also known as antibodies, in the blood. Antibodies are proteins made by the immune system to fight disease-causing substances, like viruses and bacteria. Your body makes different types of immunoglobulins to fight different types of these substances.

An immunoglobulins test usually measures four specific types of immunoglobulins. They are called IgG, IgM, IgA and IgE. If the levels of IgG, IgM, IgA and IgE are too low or too high, it may be a sign of a serious health problem.

An immunoglobulins blood test may be used to help diagnose a variety of conditions, including:

**Bacterial or Viral infections**

**Immunodeficiency, a condition that reduces the body's ability to fight infections and other diseases**

**An autoimmune disorder, such as rheumatoid arthritis or lupus. An autoimmune disorder causes your immune system to attack healthy cells, tissues, and/or organs by mistake.**

**Certain types of cancer, such as multiple myeloma Infections in newborns**

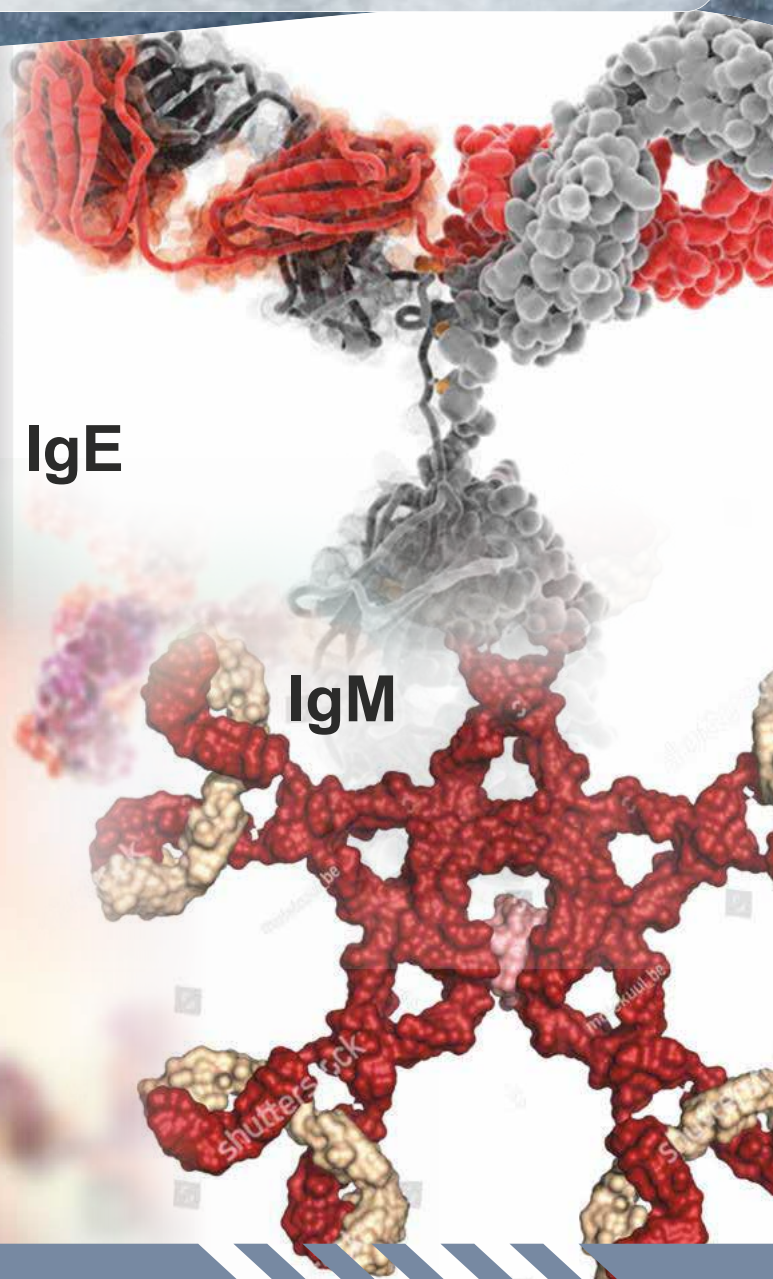
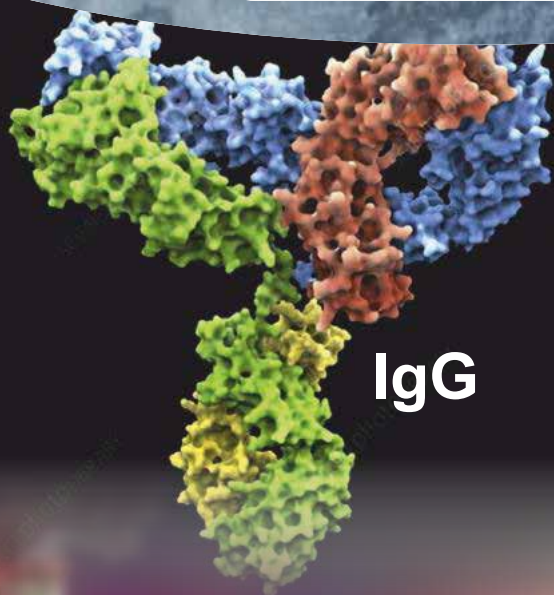
**Symptoms of Immunoglobulin levels that are too low include:**

- ✘ Frequent and/or unusual bacterial or viral infections
- ✘ Chronic diarrhea
- ✘ Sinus infections
- ✘ Lung infections
- ✘ Family history of immunodeficiency

**Symptoms of Immunoglobulin levels that are too high include:**

- ✘ An autoimmune disease.
- ✘ A chronic illness
- ✘ An infection
- ✘ A type of cancer.

Immunoglobulin A - TIA  
 Immunoglobulin M - TIA  
 Immunoglobulin G - TIA  
 Immunoglobulin E - LETIA



# High- Q Immunoglobulin Assays

## Immunoglobulin A:

IgA accounts for 15% of soluble immunoglobulin. About 90% of serum IgA exists in monomer form, the rest in dimer and polymeric form. Most IgA is not found in serum, but in another important form, secretory IgA, in tears, saliva, digestive juices, and respiratory secretions. Decreased IgA concentrations occur in both primary and secondary immunodeficiency syndromes, as well as protein loss from the intestine and through scalded skin. Elevated IgA levels are associated with severe infections and autoimmune diseases, especially inflammatory processes in the liver that raise serum IgA levels

### Features and Benefits:

- ✓ Turbidimetric Immuno Assay (TIA)
- ✓ Liquid Stable, Ready to use two reagents
- ✓ 10 Minutes Endpoint-Bichromatic Assay
- ✓ Liquid Stable Calibrator Provided
- ✓ Linearity: 30-900 mg/dL
- ✓ Measuring Wavelength - Primary 300 nm, Secondary 700 nms (600-700 nms)
- ✓ Serum is the Specimen
- ✓ Available as multipurpose reagents and dedicated system packs

## Immunoglobulin G:

IgG is the most abundant type of immunoglobulin produced by plasma cells, accounting for 75% of the total immunoglobulin. Its main function is to bind to antigens and further trigger their breakdown. Decreased IgG concentration occurs in both primary and secondary immunodeficiency syndromes. Reduction may also be caused by loss of protein from the intestine or through scalded skin. Severe infections and autoimmune diseases can cause increased IgG concentrations, such as lupus erythematosus, infectious diseases and cholecystofibrosis.

### Features and Benefits:

- ✓ Turbidimetric Immuno Assay (TIA)
- ✓ Liquid Stable, Ready to use two reagents
- ✓ 10 Minutes Endpoint Assay
- ✓ Liquid Stable Calibrator Provided
- ✓ Linearity: 175-3500 mg/dL
- ✓ Measuring Wavelength 630nm (600 – 630 nm)
- ✓ Serum is the Specimen
- ✓ Available as multipurpose reagents and dedicated system packs

## Immunoglobulin M:

IgM is the earliest type of immunoglobulin. It is the first immunoglobulin synthesized after initial exposure to antigens. In adult serum, it accounts for 5% of total immunoglobulin. Decreased IgM concentrations occur in primary and secondary immunodeficiency syndromes. Reduced IgM levels are common in protein-loss, intestinal diseases and burns. Severe infections and autoimmune diseases can lead to elevated IgM concentrations. IgM concentrations can also be increased in macroglobulinemia, bacterial and parasitic infections, liver diseases, rheumatoid arthritis and cholecystofibrosis.

### Features and Benefits:

- ✓ Turbidimetric Immuno Assay (TIA)
- ✓ 10 Minutes Endpoint-Bichromatic Assay
- ✓ Liquid Stable Calibrator Provided
- ✓ Linearity: 25-800 mg/dL
- ✓ Measuring Wavelength - Primary 300 nm, Secondary 700 nms (600-700 nms)
- ✓ Serum is the Specimen
- ✓ Available as multipurpose reagents and dedicated system packs

## Immunoglobulin E:

Human IgE has a molecular weight of about 190 000 dalton and consists of two identical heavy chains and two identical light chains which are bound together by disulfide bonds in a characteristic Y-shaped form. The original function of IgE is the specific defense of parasites. In the developed countries, it plays a major role in the mediation of immediate type hypersensitivity reactions (type I according to Coombs and Gell). Harmless, polyvalent antigens (pollen, house dust mites), stimulate B cells at the site of entry to synthesize specific IgE which in part binds to mast cells. The half life of unbound IgE is 2 – 3 days while mast cell-bound IgE has a half-life from months to years. During the next contact of the antigen with the sensitized mast cell, bound IgE are cross-linked. The cell is degranulated and mediators (mainly histamine) are released which cause, for example, symptoms of hay fever, asthma, and atopic eczema. Elevated IgE levels occur in atopic diseases, parasitic infection, diseases with T cell dysfunction (e.g. AIDS), certain malignant tumors (respiratory tract, gastrointestinal tract), hyper-IgE syndrome, graft-versus-host disease, and in severe burns. Measurement of total IgE is mainly conducted to diagnose of atopic diseases where highly increased IgE levels may occur. IgE testing is a good tool especially in differential diagnostic examination of clinical pictures with possible allergic background

### Features and Benefits:

- Latex Enhanced Turbidimetric Immuno Assay (LETIA)
- High Avidity Anti IgE Antibodies are used for high functional affinity there by better linearity
- Liquid Stable Two Reagents
- 4 Point Calibrator Set provided
- Measurement at 546 nms (546-630 nms)
- Test Procedure time 5 minutes at 37°C
- High Linearity : 2000 IU/mL
- Adaptable to Semi and Automated Analyzers



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