

3.2.2

Antibodies

Antibodies are also called immunoglobulins (Ig). They are Y-shaped proteins that have an antigen-binding site at each end of the arms of the Y, so each antibody could actually bind to two separate antigens. There are five different types or classes of antibody that are found in different concentrations in the blood and have different functions outlined in the table below (Figure: [antibodies](#)).

Class	% serum Ig	Immunoglobulins: Functions and important properties
IgA	5-15	Can be secreted onto mucus membranes (mucous, saliva, tears, vaginal tract, breast milk and blood) to provide additional protection against infections
IgD	<1	Main antigen receptor bound to the plasma membrane of B-cells. Found in tissues lining the chest and abdomen.
IgE	<1	Helps stimulate inflammation by serving as the antigen receptor of mast cells and basophils. Protects against parasites. Activated during allergic reactions to pollen, fungus, animal dander, foods, medicines and poison. Found in the lungs, skin and mucous membranes. IgE levels are high in those with allergies.
IgG	75-85	Most common immunoglobulin in the body and found in all body fluids. It is the primary Ig produced against protein antigens, can cross the placenta to protect newborns from infection in utero and especially after birth
IgM	5-10	Primary Ig is produced against carbohydrate antigens, but is also produced in lower amounts in response to protein antigens. IgM is the first antibody to appear in response to an initial exposure of an antigen in the blood to lymph.



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