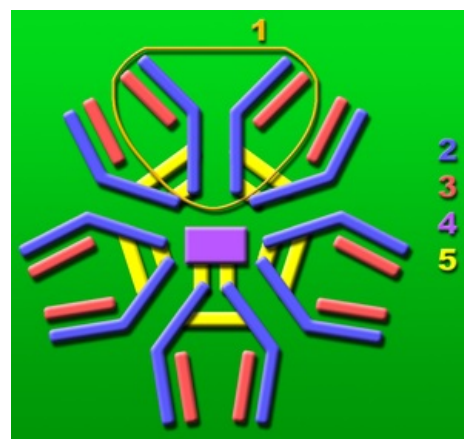
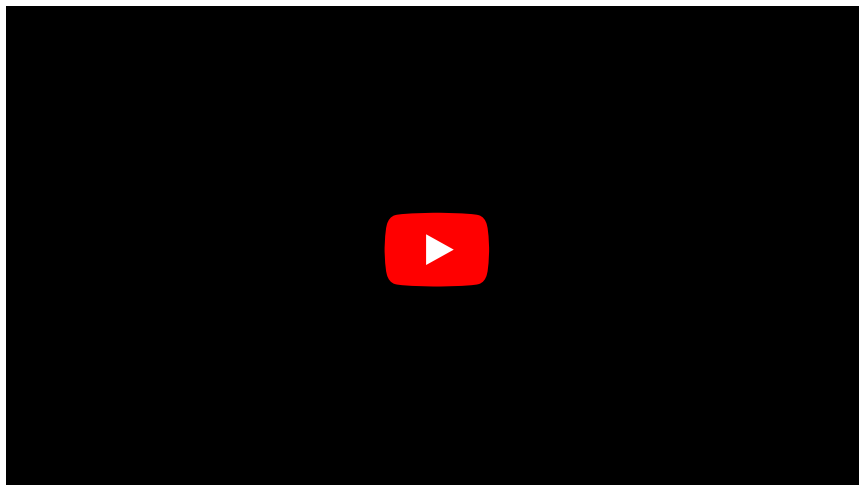


# Immunoglobulins M

This article has been translated from WikiSkripta; ready for the **editor's review**.

**IgM antibodies** make up 10% of all antibodies in the serum, with a concentration of **1-1.5 g / l**. IgM monomer is an integral part of the B-cell membrane (BCR). IgM have a short half-life, unlike IgG they remain in plasma only shortly after antigen is eliminated.

## Cold AIHA:



IgM class antibody scheme. Blue heavy chains, yellow light chains, dark blue or yellow variable sections, light blue and yellow constant sections, green disulfide bridges, red J-chain

File:Dynamika protilatek  
Antibody dynamics

## Structure

The whole IgM antibodies form a pentamer, the individual subunits are connected in a circle by cystine bridges and one J chain. Due to this structure, they do not penetrate into the tissues, they remain in the vascular bed. Theoretically, this arrangement creates 10 antigen binding sites, in practice five are usable, the others are spatially blocked. The subunits have a similar structure to IgE antibodies, their heavy chain consists of 1 variable and 4 constant immunoglobulin domains.

## Function

- **Acticates complement** – after the binding of IgM to the antigen, complement proteins bind the immnocomplex which are then activated by the classical pathway,
- Is the only one that responds to polysaccharide antigens (ABO system),
- **Agglutination** – IgM is able to bind a lot of antigens and therefore easily forms *agglutinates*.

At the onset of a specific immune response they are generated first, their production does not require isotype switching. if a fetal infection occurs, IgM is present at birth. There is a small amount of secretory IgM production.

IgM **has no** opsonization function.

## Diagnostic significance

- **For secondary immune responses** – positive IgM for antigen indicates an acute infection.

## Links

### Related articles

- IgG
- IgA
- IgE and IgD
- Antibody
- Immunoglobulins

## References

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