

Antibody (Immunoglobulin)

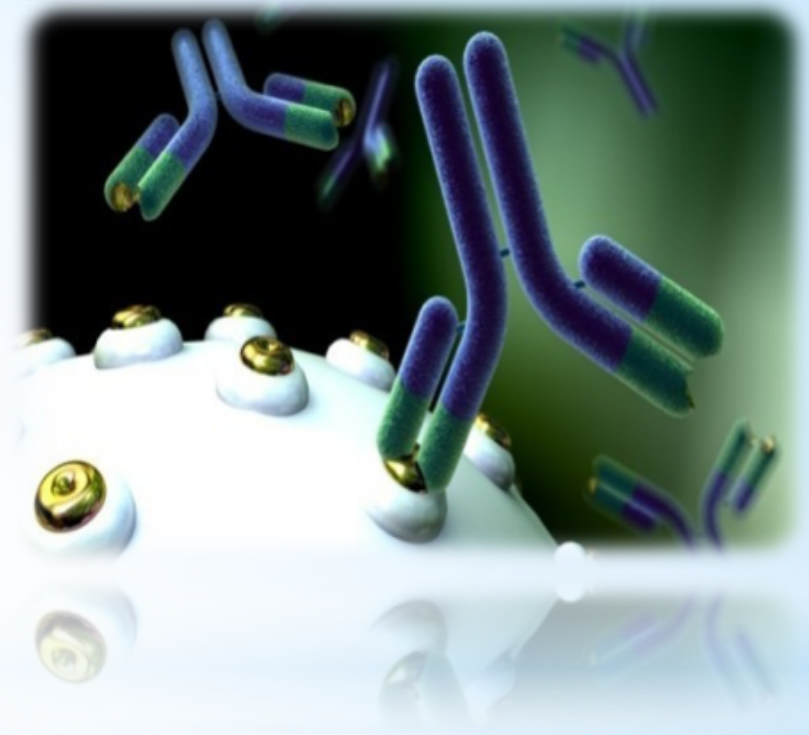
Shaiemaa Fouzi 2032

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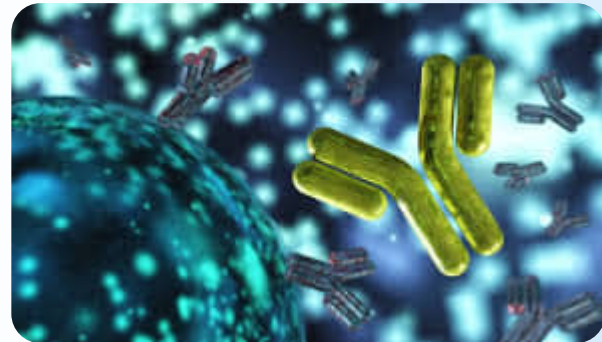
Objective :-

1. Define antibody
2. Explain the structure of antibodies.
3. List the properties of antibody
4. List the roles of different antibody classes
5. Explain antibody abnormalities

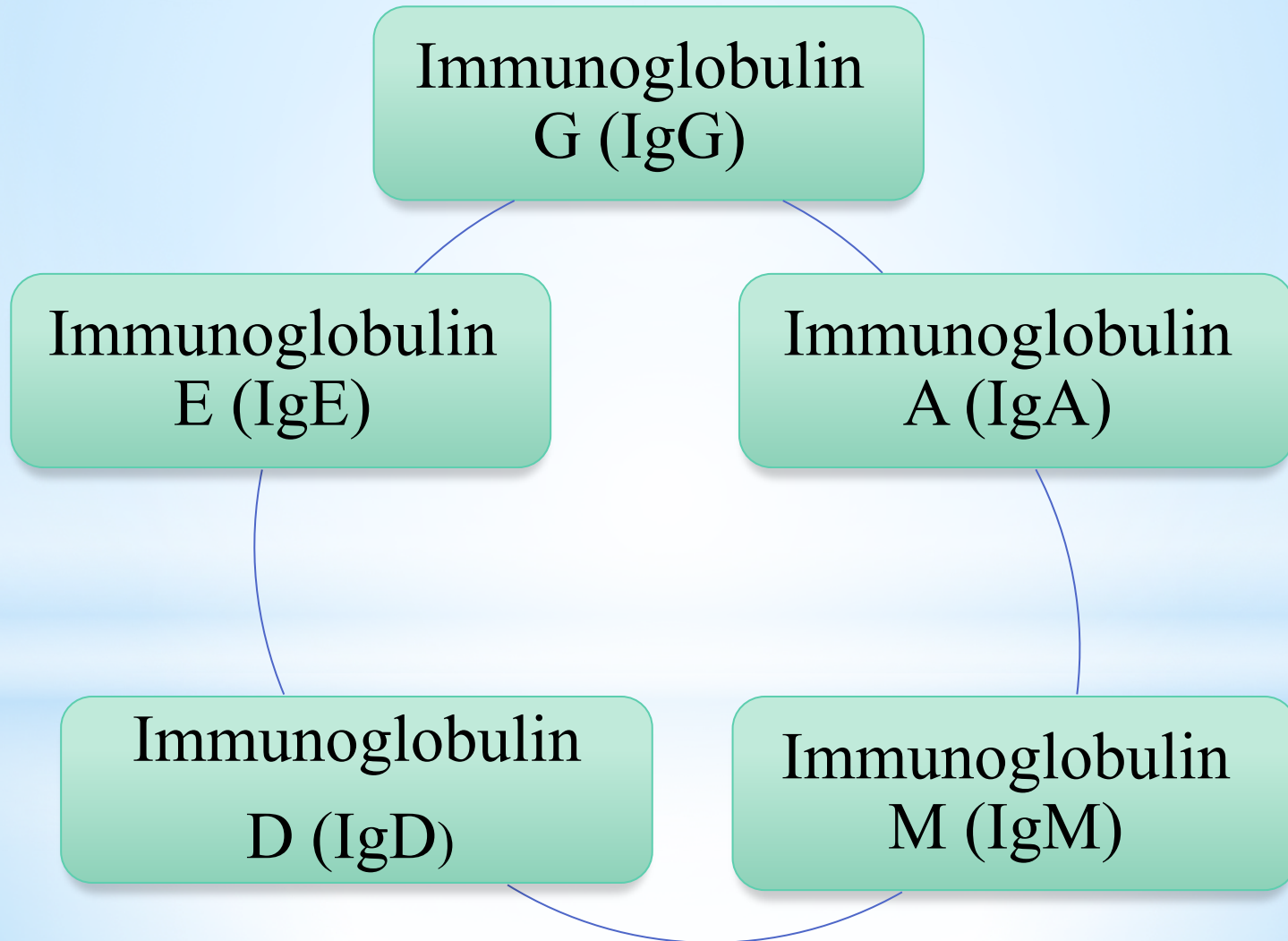


Define antibody

Antibody (Ab) also known as Immunoglobulin (Ig) is the large Y shaped protein produced by the body's immune system when it detects harmful substances, called antigens like bacteria and viruses.

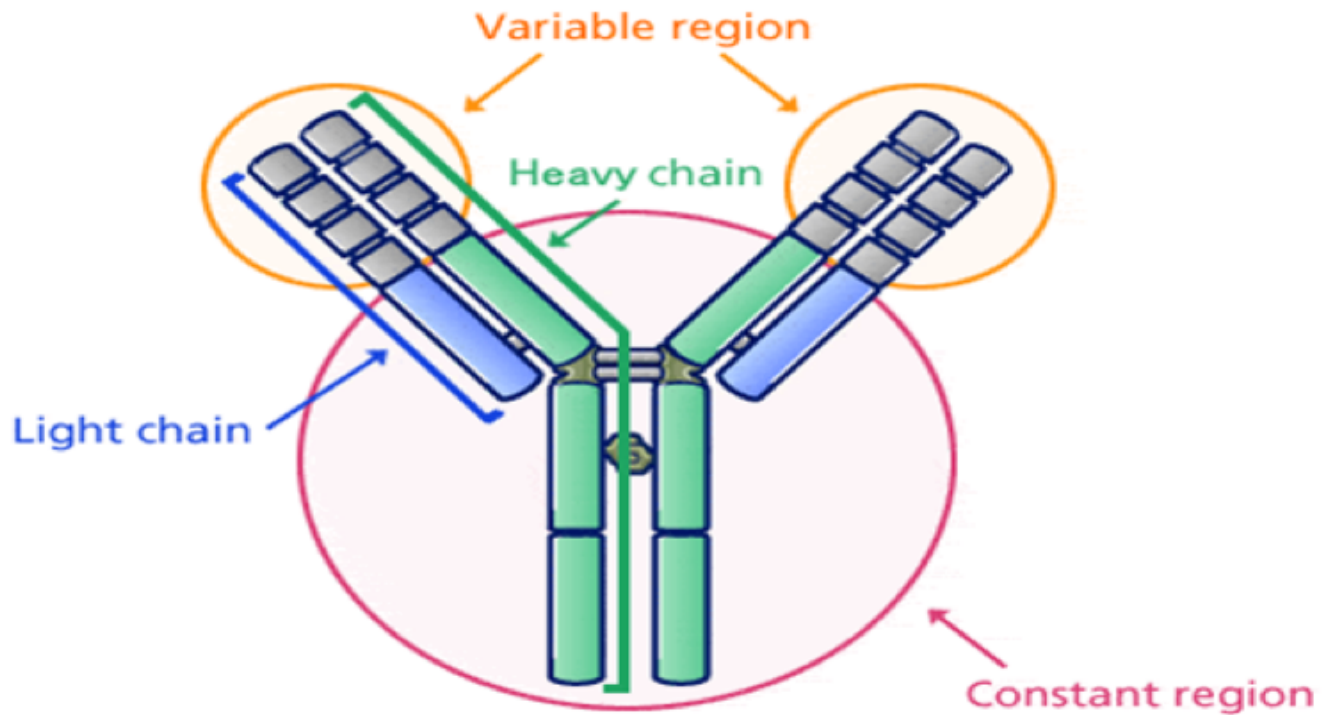


Types of Antibody

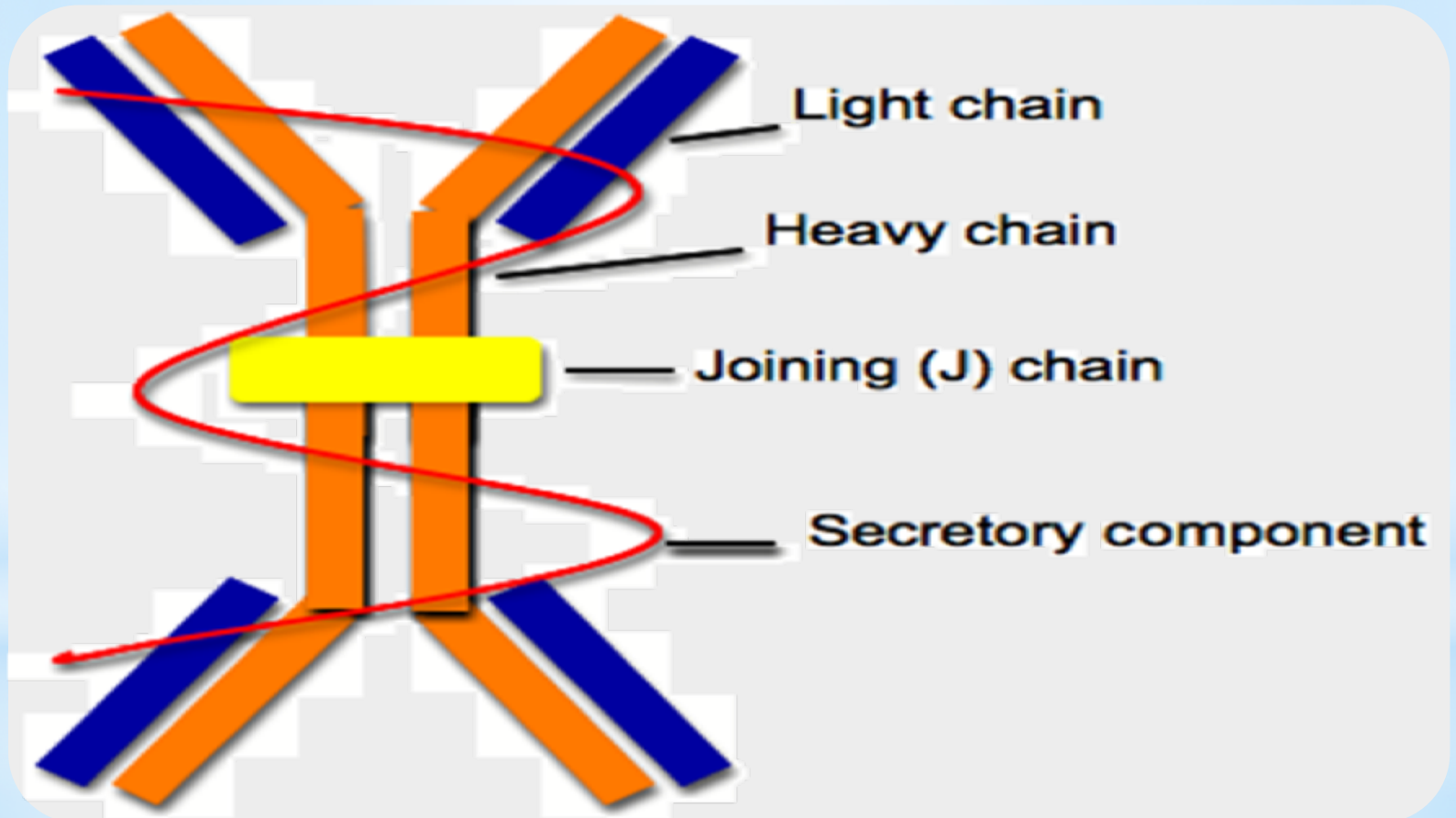


Structure of antibody

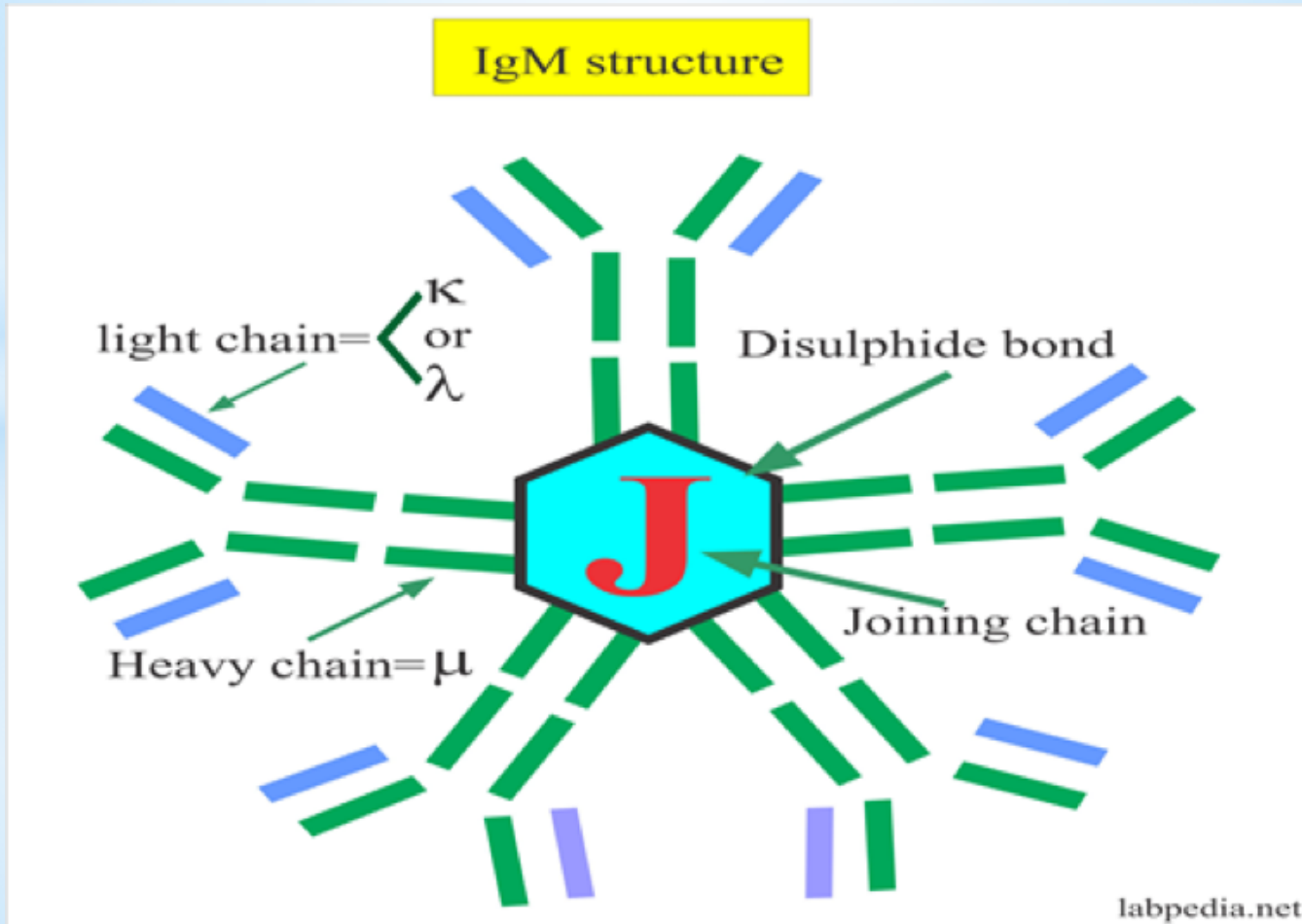
Immunoglobulin G (IgG)



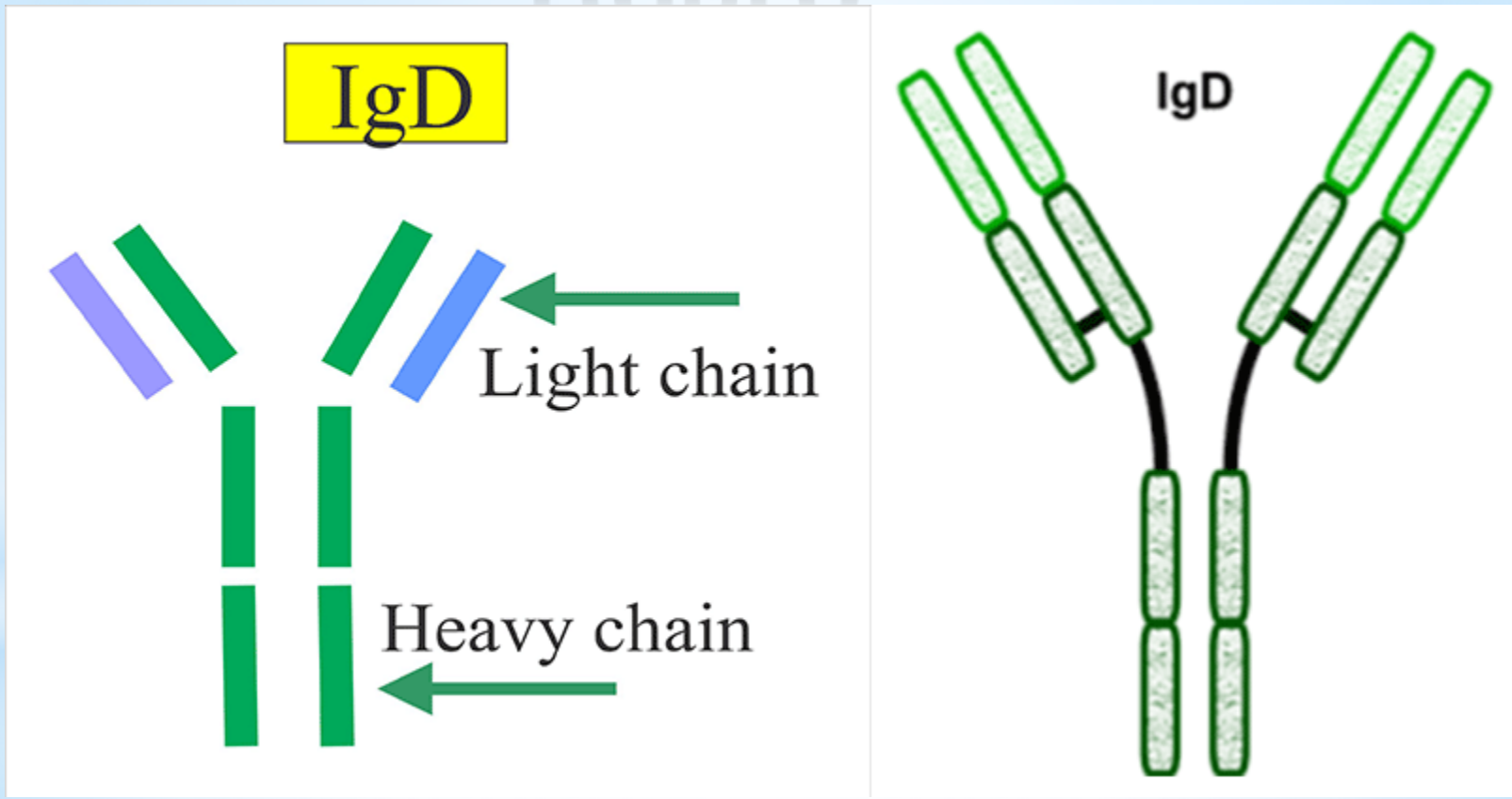
Immunoglobulin A (IgA)



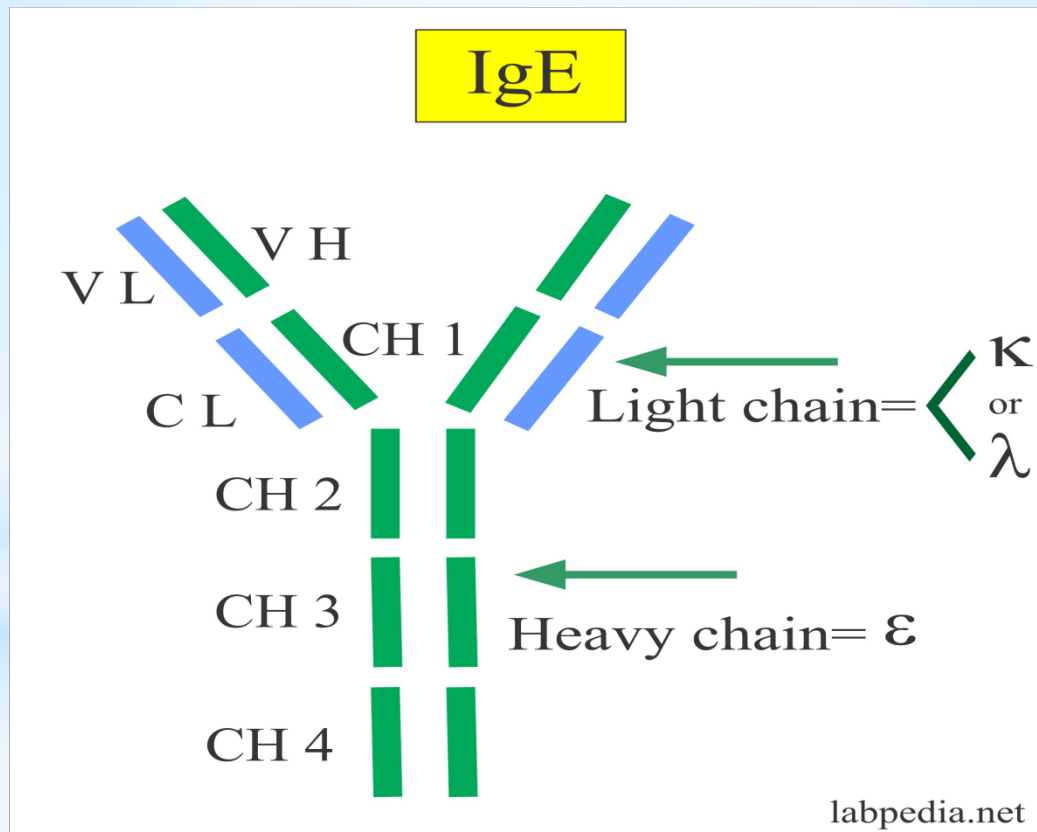
Immunoglobulin M (IgM)



Immunoglobulin D (IgD)



Immunoglobulin E (IgE)



Properties of antibody

1. Electrophoretic mobility
2. Sedimentation and molecular weight
3. Physicochemical and antigenic structure

Roles of different antibody classes

1. IgG: Protects the body fluids
2. IgA: Protects the body surfaces
3. IgM: Protects the bloodstream
4. IgE: Mediates type I hypersensitivity
5. IgD: Role not known.

Antibody abnormalities

1. Multiple myeloma
2. Heavy chain disease
3. Cryoglobulinemia

Summary

This presentation defined antibodies which are proteins produced by the body's immune system when it detects harmful substances. Then discussed the types, properties, and roles of immunoglobulin. Finally, explained the abnormal immunoglobulin.

References

1. <https://microbiologyinfo.com/antibody-structure-classes-and-functions/>
2. Surinder, Kumar /2016/ Essentials of Microbiology/



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