

My bold shelf

A shelf that's bold.

BLAKE HEDGES NOV 28, 2017 02:55PM

Function of Immunoglobulins

Immunoglobulins, which are also known as antibodies, are glycoprotein molecules that are produced by plasma cells, also known as white blood cells. Immunoglobulins have various different classes and subclasses which differ in many features such as structure, target specificity and distribution. These antibodies are a crucial part of the immune response. They specifically recognize and bind to particular antigens such as bacteria and viruses to help destroy or neutralize them.

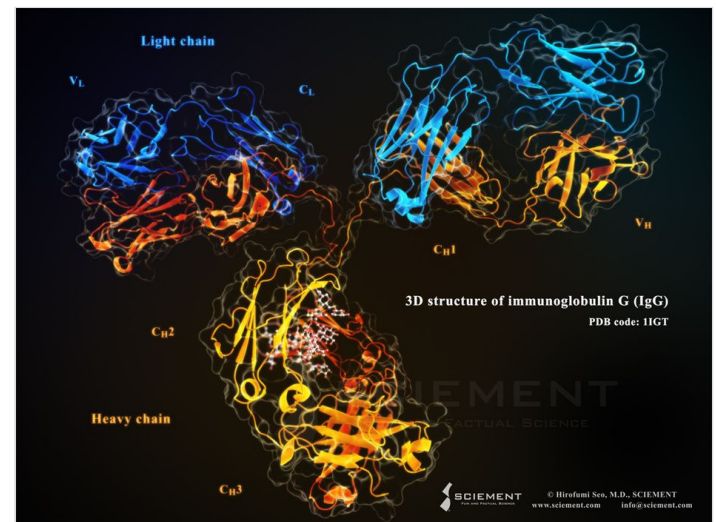
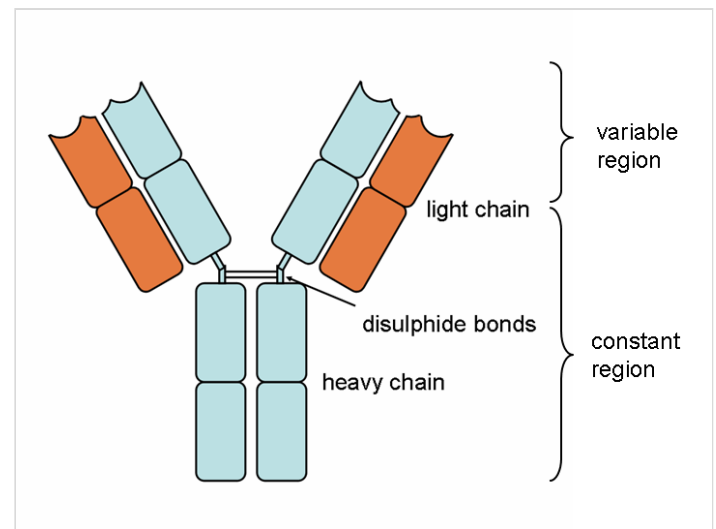
Location of Immunoglobulins

There are 5 subclasses of immunoglobulins and they are all found in different places. Immunoglobulin A is found in the mucous membranes, such as the lining of the respiratory passages and the gastrointestinal tract, but is also found in saliva and tears. Immunoglobulin G, which is the most abundant type of antibody, is found in all body fluids. Immunoglobulin M is found in the blood and lymph fluid. Immunoglobulin E is found in the lungs, skin, and mucous membranes. And finally, there is Immunoglobulin D, which is the least understood antibody, exists in small amounts in the blood.

Structure of Immunoglobulins

Immunoglobulins have glycans (sugar chains) which conserve amino acid residue, which is paramount in the structure of the antibody. The immunoglobulin is a Y-shaped molecule, that consists of four polypeptide chains. Each chain is composed of structural domains called immunoglobulin domains. These domains contain about 70–110 amino acids. The light chains of an antibody can be classified as either kappa (κ) or lambda (λ) type based on small differences in polypeptide sequence. The heavy chain makeup determines the overall class of each antibody

Structure of Immunoglobulins



Immunoglobulins Explained

system and nervous system, coagulation of blood and the vascular system.

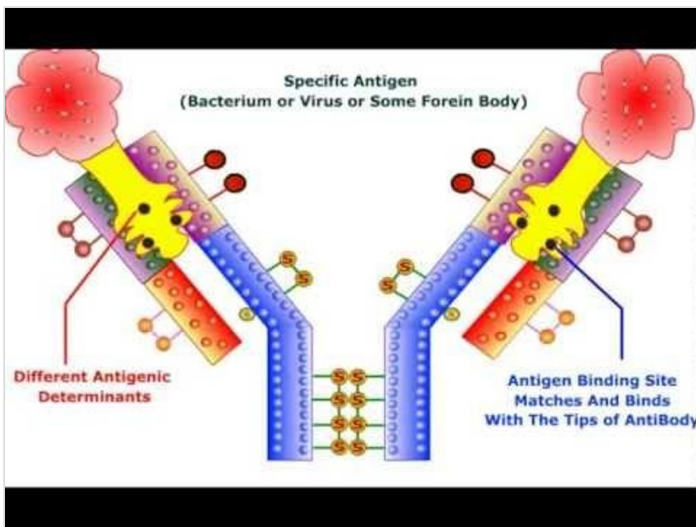
Creating Immunoglobulins in Vitro

Researchers have recently been able to create specific antibodies in vitro. They treat patient derived B cells with a DNA fragment that triggers it and helps it to start developing into plasma cell. It is then treated with the appropriate antigen, turning it into the correct antibody. This development will allow for production of antibodies in vitro in a shorter amount of time without the need for a blood donation from infected donors, and can lead to the rapid development of vaccines by allowing the efficient evaluation of potential antibodies.

Link:

<https://www.sciencedaily.com/releases/2017/07/170724105119.htm>

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Structure of Immunoglobulin Animation HD

immunoglobulin (Ig) Immunoglobulins are glycoprotein molecules that are produced by plasma cells in response to an immunogen and which function as antibodies. The immunoglobulins derive their name from the finding that they migrate with globular proteins when antibody-containing serum is placed in an electrical field.

YOUTUBE

Importance of Immunoglobulins

Immunoglobulins are responsible for fighting off infection in the body and regulating the immune system. When bonded to other cells, it can have an effect on the control of regeneration of tissue, the inflammatory process, and the nervous system. Important for the communication between the immune
