

Question No 2;

Answer ;

Innate and acquired immunity ;

our immune host defenses can be divided into two types which are discussed as under

1, Innate (natural )

It is exists prior to exposure to the microbes. It also called natural immunity. This is nonspecific and include host defenses such as barrier to infectious agents.

1. skin and mucous membrane

2.certain cell

3.certain protein

4. involves processes such as phagocytosis inflammation

It does not improve after exposure to the organism in contrast to acquired immunity. Innate immunity processes have no memory unlike acquired immunity. Innate armed of our host defense performs two major function .

1 killing invading

2 activating acquired immunity processes

Neutrophils only kill microbes and macrophages and dendrite cell perform both functions i.e. they kill microbes. Component of the innate arm have receptor called pattern recognition receptors that recognized a molecular pattern present on the surfaces of many microbes and very important that is not present on human cell.

2, Acquired (adaptive ) immunity

Occurred after exposure to an antigen improve upon repeated exposure and specific. Mediated by antibody produced by B lymphocyte and by two types of T lymphocyte namely helper T cells and cytotoxic T cells.

Acquired immunity have long term memory for a specific antigen. Acquired immunity can be active or passive. Macrophages and other antigen presented cells such as dendrite cells play an important role in both innate and acquired arms of the immune system. the acquired arms can be activated only after innate arms has recognized microbes.

Active and passive immunity;

Active immunity ;

Active immunity is resistance include after contact with foreign antigen e g microorganism sit contact with consist of clinical or subclinical infection immunization which live or kill infectious agent.

Advantages of active immune is that resistance is long term and disadvantages is its slow onset.

Passive immunity ;

Passive immunity is resistance as based on antibodies preformed in other host.

Advantages of passive immunity is immunized is the prompt available of large amount of antibody. Disadvantages of passive immunity is the shorted life span of these antibodies and possible hypersensitivity reaction if globulins from another specific are used.

Question No 1;

Answer ;

1;

Answer ;

Immunology

Immunology is the branch of science in which we study about the immune system is called immunology.

It is the study of immune system and also it is a very important branch of medical and biological sciences.

Immunity is described as the ability of the body to recognized neutralized or destroy harmful foreign substances in our body.

2;

Answer ;

Serology ;

It is the medical sciences which dealing with blood serum especially in regard to immunological reaction like antigen and antibodies reaction.

It is the branch of sciences in which we study about blood serum is called serology.

3;

Answer ;

Antibody ;

Antibodies is a protein which are produced mainly by plasma cells that is used by the immune system o identify and neutralized pathogen such as bacteria and viruses etc then it is called antibody.

4;

Answer ;

Antigen ;

Any toxin or any foreign particle and substances which induces an immune response in the body especially the production of antibodies is called antigen .

Question No3;

Answer ;

Immunoglobulin ( antibodies )

Definition ;

Immunoglobulin or antibody is a protein which is produced by plasma cell and it is used by immune system to identify and also neutralized pathogen which are harm such as bacteria viruses or other any foreign particles then it is called immunoglobulin or antibodies.

Introduction ;

Antibodies are globulin protein that react specifically with the antigen that stimulated there production. They make up about 20% of protein in blood plasma. Blood contain three types of globulin alpha, beta, and gamma.

Antibodies are gamma globulin there are five cases of antibodies IgG , IgM ,lgA ,lgD ,and lgE.

Antibodies are subdivide into these five classes based on difference in heave chain.

Immunoglobulin structure ;

Immunoglobulin are glycoprotein made up of light L and heavy H polypeptide chain. The term light and heave refer to molecular weight light chain have molecular weight is about 25000 whereas heave chain have molecular weight is about 50000 to 70000.

The simplest antibodies molecule has Y shaped and consist of four polypeptide chain two H chain and two l chain. The four chain are liked by disulfide bonds and individual antibody molecule consist of identical H chain and L chains. L and H chain are subdivided into variable and constant region.

An L chain consist of one variable and one consist of region. Most H chain consist of variable and three constant domain .the variable region of both the light and heave chain are responsible for antigen binding. The constant region of the heave chain is responsible for various biological function.

The variable region of both L and H chain have three extremely variable amino acid sequences at the amino terminal end that form the antigen binding site.

Both types occur in all classes of immunoglobulin but any one immunoglobulin molecule contain only one type of L chain participate in the antigen binding site.

Important function ;

The most important function of the antibodies are to neutralized toxin and viruses.

To opsonize microbe so the are most easy phagocytosis

To activated complement and prevented the attachment of microbes from mucosal surface.

Antibodies also have catalytic capability .