

➤ Basic types of immunities

There are two types of immunities

- (i) Natural or innate or inborn Immunity
- (ii) Acquired or adoptive or artificial Immunity

i. **Natural or innate or inborn or Immunity**

Definition: Any response against antigen in which body needs no activation of immune system but naturally response is shown is natural immunity e.g. immunity against skin flora.

Characters:

- a. Immunity that we inherit from our parents.
- b. In embryonic stages it is provided by mother through placenta.
- c. In our daily life a lot of antigens are attacking our body, but we are naturally immune to it in terms of first & second line of defense.
- d. We are naturally immune to mouth, stomach, & colon bacteria.
- e. It is non-specific immunity.

Components of Innate Immunity

(i) **Anatomical barriers:**

This includes skin, mucous membrane, cilia, macrophages, neutrophils, NK cells, dendritic cells, basophils & eosinophils etc.

(ii) **Chemical Barriers:**

This includes tears, saliva, mucus, sweat, complement protein, inter Lukens, interferon & HCl etc.

ii. **Acquired or adoptive or artificial Immunity**

Definition: A type of immunity which is not present by birth however person adopt it in its life by natural infection, by taking readymade antibodies or by vaccination.

It is usually activated when any foreign particle i.e. antigen or vaccine is exposed then our body learn how to respond against that specific antigen in this way we are learning or acquiring immunity.

Characters:

- a. It is specific immunity because it is due to the sequential activation of macrophages, T-lymphocytes and B-lymphocytes which can secrete antibodies if required. Antigenic record is kept in a form of T- & B- memory cells when the specific antigen re-enters the body, it is readily recognized and then destroyed whether by T-cells or antibodies.
- b. It may be temporary e.g. Influenza because its antigen changes structure out each entry.
- c. It may be permanent such as measles, mumps, polio. Small pox etc. because their antigens have stable molecular program.

Types: There are two types of acquired immunity

- i. Active acquired or natural acquired immunity.
 - ii. Passive acquired or artificial acquired immunity.
- i. Active acquired immunity**

This type immunity is developed in a form of antibodies production against antigen by individual body. It is long lasting immunity. It can be developed by two ways.

a. Exposure to disease

When an individual is exposed to any microbe then body produces antibodies against antigen & keeping its record for the sack of future protection of the body. In this way body learns how to immune against respective microbe.

b. Vaccination

Heat killed or live attenuated vaccine is used in a form of injection or orally in separate doses then body recognize it as antigen and produce antibodies against it through the process of activation & being activated by leukocytes without single sign symptom of a disease. Microbe's antigenic record is kept in T- & B- memory cells.

c. Passive acquired or artificial immunity

In this case immunity is developed against specific antigen by introduction of readymade antibodies into the body from outside rather than producing by own immune cells, which is either prepared by living organism or by machine in a form of antibiotics. It lasts for short time but respond very quickly therefore sometime a patient is recovered in a day or two but after dose completion an infection is recurred.