

Active Immunity	Passive Immunity
protection that is produced by the person's own immune system	protection by products produced by an animal or human and transferred to another human, usually by injection.
usually lasts for many years , often for a lifetime (Immunologic memory: The persistence of protection for many years after the infection is known as immunologic memory)	often provides effective protection. This protection is temporary. The antibodies will degrade during a period of weeks to months , and the recipient will no longer be protected.
Most imp example: Vaccinations	most common form: is that which an infant receives from its mother (IgG) <ul style="list-style-type: none"> • These antibodies will protect the infant from certain diseases for up to a year. Protection is better against some diseases (e.g., measles, rubella, tetanus) than others (e.g., polio, pertussis) MRT>PP
The most effective immune responses are generally produced in response to a live antigen <ul style="list-style-type: none"> • General Rule: The more similar a vaccine is to the disease-causing form of the organism, the better the immune response to the vaccine 	<ul style="list-style-type: none"> •

Live Attenuated Vaccines	Inactivated Vaccines
Attenuated (weakened) form of the "wild" virus or bacterium	Protein-based vaccines include toxoids (inactivated bacterial toxin) and subunit or subvirion products <ul style="list-style-type: none"> • Most polysaccharide-based vaccines are composed of pure cell wall polysaccharide from bacteria • Conjugate polysaccharide vaccines contain polysaccharide that is chemically linked to a protein. This linkage makes the polysaccharide a more potent vaccine (stronger/better/more widely used)
Must replicate to produce an immune response <ul style="list-style-type: none"> ⇒ Immune response virtually identical to natural infection ⇒ Immune response: cellular + humoral (strong) 	Antibody titers against inactivated antigens diminish with time . As a result, some inactivated vaccines may require periodic supplemental doses to increase, or " boost ," antibody titers. <ul style="list-style-type: none"> ⇒ Immune response: mostly humoral, little or no cellular
Usually produce immunity with one dose (except those administered orally eg oral polio)	always require multiple doses . In general, the first dose does not produce protective immunity, but " primes " the immune system. A protective immune response develops after the second or third dose .
Severe reactions possible <ul style="list-style-type: none"> ⇒ @ immunocompromised: Contraindicated as could cause severe or fatal reactions as a result of uncontrolled replication (growth) of the vaccine virus (e.g., from leukaemia, treatment with certain drugs, or HIV) ⇒ @ immunocompetent: they usually do not cause Dz such as may occur with the "wild" form of the organism...but it can cause adverse reactions eg local 	

Recombinant vaccines: Vaccine antigens may also be produced by genetic engineering technology