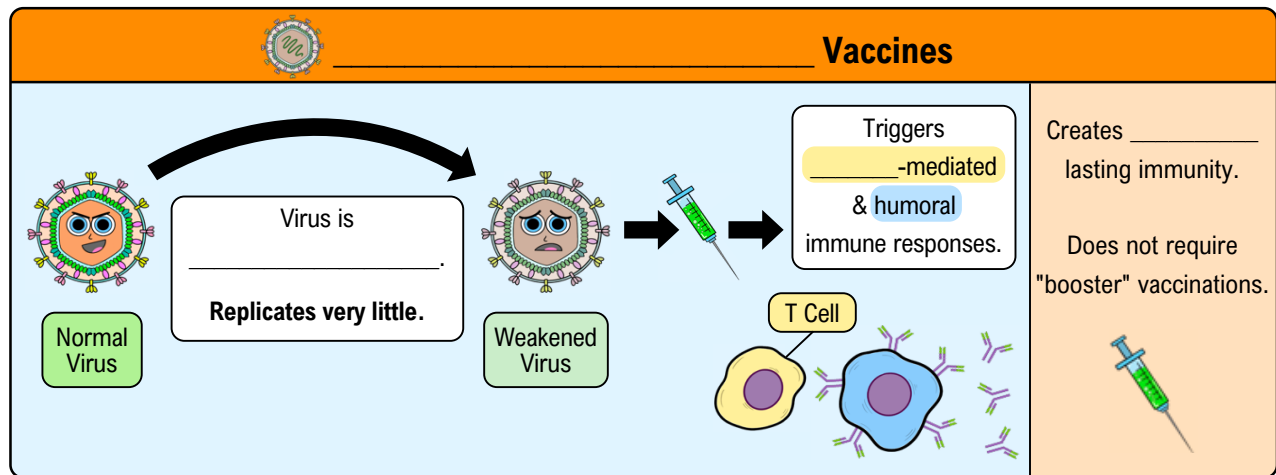


TOPIC: ATTENUATED VACCINES

Attenuated Vaccines

- ◆ Often *weakened* by *mutating* virulence genes (makes them *non-pathogenic*, but can still _____).
 - *Replication* _____ immune effects (provides _____-term protection).
- ◆ Typically require _____ doses & induce _____ *cell-mediated* & *humoral* immune responses.
 - _____ effective, but *higher risk* (can replicate & very small chance of reverting to a pathogenic state).



PRACTICE

All the following are characteristics of live attenuated vaccines except?

- a) These vaccines are known to provide short-term immunity and commonly require booster vaccinations.
- b) The immunizing agent is a weakened microbe.
- c) These vaccines trigger cell-mediated immunity and humoral immunity in the patient.
- d) These vaccines are associated with higher risk in patients with weak immune systems.

PRACTICE

The MMR vaccine protects individuals from the diseases commonly known as measles, mumps, and rubella. This vaccination is not recommended for pregnant individuals or immunocompromised individuals. Knowing this, the MMR vaccine must be:

- a) An inactivated vaccine.
- b) An attenuated vaccine.
- c) A toxoid vaccine.
- d) Antibodies from patients previously infected by these diseases.