

# VACCINES IN VETERINARY MEDICINE

- Vaccines are biological agents that protect against infection by stimulating active humoral and cellular characterization in humans and animals.
- However, passive immunity also plays a role in protecting the body against microorganisms.

- Vaccinations are an effective method of preventing a wide range of animal diseases.
- It is estimated that veterinary vaccines are available for over 400 diseases affecting mammals, birds and fish, including farm animals, pets and wildlife.
- Vaccines are crucial in the control of many human and veterinary diseases.

Veterinary vaccines today may include inactivated (nonviable) bacteria, viruses or parasites, attenuated live microorganisms, attenuated live organisms carrying genes of a different agent (subunit antigens of different organisms), or soluble substances produced during bacterial growth.

Experimental vaccines include the use of a synthetic analog of the disease-causing agent or DNA from a specific pathogen.

## **Biological Product**

Refers to “all viruses, bacteria, sera, toxins, and analogous products of natural or synthetic origin, live microorganisms, killed microorganisms, and antigen immunizing components of microorganisms intended for use in diagnosis, treatment, or prevention of diseases in animals”

## **Toxoid**

A sterile, soluble, nontoxic material prepared from growing bacteria, separating the bacterial cells from the culture fluids and rendering the soluble liquid nontoxic.

Toxoids may also be prepared by chemical synthesis or using recombinant DNA technologies.

## **Modified Live Vaccine**

A vaccine containing a live microorganism that has been rendered avirulent or incapable of causing disease when given to the target or host animal.

## **Vector Vaccine**

A live bacterium or virus determined to be nonpathogenic, by genetic manipulation or other means, and has encoded and expressed genes from another microorganism.



## **Killed or Inactivated Vaccine**

This refers to a whole viral or whole bacterial or whole parasitic vaccine in which the active component has been rendered nonviable.

## **Subunit Vaccine**

A fragment of the microorganism that has been shown to be immunogenic and can be used in place of the whole microorganism.