

# Division of laboratory animals

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# DIVISION OF LABORATORY ANIMAL SCIENCES



# Classification of laboratory animals

1. Conventional animals : Animals derived and grown in general environment but free from diseases communicable to human like mycobacteria, dermatophytic fungi, pasteurella and sarcoptes scabiei.

# Gnotobiotic animal

- Animal with **know microbes** such as virus, bacteria, fungi protozoa is said to gnotobiotic animal.
- This animal has to be **bred in controlled environment** in the equipment called **isolator**.
- They are foundation stocks for producing **specific pathogen free** (SPF) animals and may be derived from germ free animals.
- Gnotobiotic rats and mice used to study carcinogenenesis, immunology, toxicology, nutrition, host-parasite relationship.

# Specific pathogen free animals

- An animals which is made free from specific or particular microbes is know as specific pathogen free (SPF) animal.
- Let us suppose that we want to make an animal **free from microbe** (salmonella), this can be make an animals free from salmonella, this can be done by correct medication or derived from the parents which are devoid of such microbe and reared under free from salmonella.
- It may have other organisms.




# Isolator



# Germ free animal

- An animal which do not have any **demonstrable microbe** is know as germ free (GF) animal.
- This can be achieved by killing the mother with cervical dislocation and removing the fetuses by hysterectomy without any anesthetic in an isolator to get young ones. Further, young ones must be reared in an isolator in germ free environment.

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- They are fed milk of **foster**, germ free mother.
  - The **feed** and **water** also must be provided after sterilization with autoclaving.





These animals are **useful**

- To study role of **microbes** in nutrition.
- To study physiology **without infection**.
- To conduct **biological, toxicological and microbiological**.

Thanks