

Immunology

Practical Immunology

Lecture 3

Laboratory Animals & Immune-Biomedical Research-Part 1

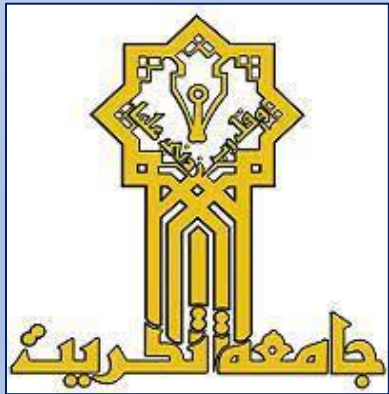
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Laboratory Animals

Define as an animals that are used in the research , testing or teaching which include traditional laboratory animals , aquatic animals

Purposes of using laboratory animals

In order to provide the best knowledge for human care and getting the information that improve the advancement of scientific knowledge that is relevant for both human and animals .

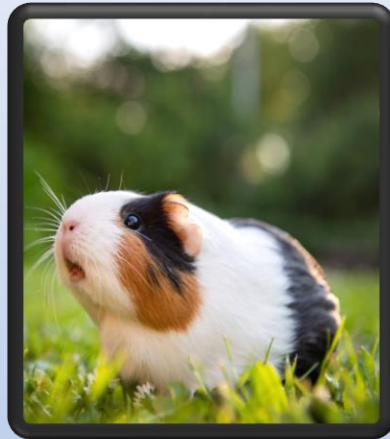
What is IACUC?

Institutional **A**nimal **C**are and **U**se **C**ommittee : This committee is responsible for providing the regulations , Lab animals protocols and as well as the guidance for veterinarian and scientists in general on the effective way on how to use the laboratory animals for biomedical research which eventually provide a significant knowledge for future studies on human and animals in general.

Different types laboratory animals



Mice



Guinea Pig



Rat



Hamster



Gerbil



Hamster



Zebra Fish

Important factors should be considered about lab animals

1- Strain

The strain of animals should be well known , for example in mice the researchers using C57BL/6 strain, C3H/HeJ strain and BALB/c , while also there are knockout mice which should be considered for some studies where in these knockout mice the researchers inactivated an existing selected gene, and the type of the deleted gene depends on the disease model and the purpose of the study .



C57BL/6 strain -mice



C3H/HeJ strain -mice



BALB/ c strain -mice

2- Age

The age of the mice depends on the disease model of the study , so each disease model have their own specific ages, for example if the study designed on the respiratory then the age of mice in general is (6-8 weeks).

3- Body weight

This factor depend on the purpose and type of the research , for instance if the model is respiratory diseases then the body weight that we should consider is 20 gm while in obesity model the body weight is 50 mg or more.



Normal mice

Obese mice

Best
Wishes!

The image features the phrase "Best Wishes!" written in a bold, black, cursive script. The text is set against a white, slightly tilted rectangular background. The word "Best" is on the top line, and "Wishes!" is on the bottom line. The letters are thick and have a slight shadow effect. Several small, five-pointed gold stars are scattered around the text, particularly around the word "Best". A long, sweeping, black flourish extends from the bottom of the word "Wishes" across the width of the text.