

POSTGRADUATE CORSE (PRACTICE)

FUNDAMENTAL TECHNIQUES FOR HANDLING AND TREATMENT OF SMALL RABORATORY ANIMALS

Purpose: As the basis of corroborative research for modern medicine, animal research is greatly contributing to the advancement of medical and life science studies. The purpose of this learning course is to understand the meaning of animal experiments and to understand the handling and treatment of experimental animals. Additional understanding point is to recognize that animal experimentation must not only be scientific but also be ethical.

Key Words: animal experiment, mouse, handling, treatment, experimental animal

1. What is a desirable animal experiment?

Must be appropriate in scientifically: To get high reproducible experimental results, it is desirable to use high quality animals in genetically and in biologically, to take care of animal under fully controlled environmental conditions, and to do by adequate experimental method.

Must be appropriate in sociologically: Care for animal welfare.

2. How to treat small experimental animals.

Using mouse, important experimental animal, learn handling, drug administration, injection, blood collection, anesthesia, euthanasia and autopsy.

(Including DVD) 50min.

(Practice A: Handling and Treatment of Small Laboratory Animals)

Animals: 6 weeks old male and female mice

To understand the strain differences, 2 strains (ICR, C57Black/6) of mice used.

1) Restraint: physical restraint, restraint using restrainer

2) Inoculation: Oral inoculation: Inoculate 0.3ml of DW into the stomach using gastric tube (Catheter).

Intradermal injection: Inject 0.2ml of physiological saline.

Intravenous injection (IV): Inject 0.2ml of physiological saline into the tail vein.

Intraperitoneal injection (IP): Inject anesthetic agents

intraperitoneally.

- 3) Anesthesia: Inhalation anesthetics: Isoflurane, Halothane,
Ether (Be Careful with Fire)

Injectable anesthetics:

(Ketamine 100mg/kg + xylazine 10mg/kg IP)

Anesthetic time: 20-30min

(Be Careful: Ketamine is a narcotic drug)

- 4) Blood collection: tail artery, cardiac puncture,
5) Euthanasia: Administration of an overdose of anesthetic agent.

Cervical dislocation under anesthesia.

- 6) Postmortem procedures: visceral organs, brain etc

(Practice B:

Ethics for animal experiments

3R's on animal experiments

Reduction

Replacement

Refinement

+ Responsibility