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|  |  **Memorandum** |  |

**Department** ………………………..……………………………………..… **Tel** ...............................

**Ref** …………………………………/..................………….………….. **Date** ………….………………

**Subject**: Application for animal use and care to obtain ethical assessment of the conduct for scientific purposes for scientific purposes

**To**: Chairperson of Institutional Animal Care and Use Committee (IACUC), KMUTT

I, ………………………..............................……, …………………........................…… (position) from the.........................................................…… (Faculty / Institution /Department) would like to submit a research proposal entitled (Thai and English) ……..…………………….………………………………… ….……………………………………………………………………………………………..………….……...

for Institutional Animal Care and Use Committee approval, and I have attached a copy of each document as follows:

|  |  |  |
| --- | --- | --- |
| List of Documents | Yes | No(Please clarify) |
| 1. Animal Care and Use for Scientific Purposes Request Form (Form-IACUC-01-EN) as PDF and Word file.
 |  |  |
| 1. A Complete Research Proposal/Research Project as PDF and Word File.
 |  |  |
| 1. Animal Use License of PI
 |  |  |
| 1. License to Use or Work with Protected or Conserved Wildlife Animal (In Case the Research Involves Natural Wildlife Animal)
 |  |  |
| 1. Permission to Use the Reserved Area in the Case of a National Park Area or a Reserved Forest
 |  |  |
| 1. Certificate of Approval from the Institute Where Animal Experiment/Study is Conducted (In Case the Animal Study is Not Conducted at KMUTT)
 |  |  |

Signature …………….…………………….

 (………………………………………….)

Principal Investigator/Student

 Date ……………./……..……/…………….

Signature …………………………………......

 (………………………………………….)

 Head of Department/ Director

Date ……………./……..……/…………….

**Instructions: Please complete the form carefully and sign it before submission.**

🞎 New Project 🞎 Continuing Project 🞎 Amendment of Project 🞎 Extended Project

 **Instructions:**

**1. Research Title**

(Thai) .......................................................................................................................................................

(English) ..................................................................................................................................................

- If this protocol is a part of the Main Project, please provide the Main Project Title:

..................................................................................................................................................................

**In the case of an existing project/continuing project, specify the number of the Certificate of Approval for Animal Care and Use for Scientific Purposes** ...............................................................

- Project implementation period.........year

(Start of the project: .....................................) (End of the project: .....................................)

**2. Principal Investigator (PI)**

Name-Family Name

(Thai) .......................................................................................................................................................

(English) ..................................................................................................................................................

- Animal use license no. U1-🞎🞎🞎🞎🞎-🞎🞎🞎🞎

- Position: .................................................................................................................................................

- Contact information: ..............................................................................................................................

 Tel ......................................... Mobile ................................................ Fax ...........................................

 Email .....................................................................................................................................................

- Duty and Responsibility in the project ................................................................................................... - Animal care and use experience:

🞎 ........... Year(s) experience 🞎 No experience.

🞎 Completed training in research involving animals (Not training for Animal use license)

 Please specify the date: ..................................

🞎 Not yet trained.

**3. List Co-Investigators**

1. Name-Family Name .......................................................Position: .......................................................

- Contact information ...............................................................................................................................

 Tel ........................................ Mobile ................................................. Fax ............................................

 Email .....................................................................................................................................................

- Duty and Responsibility in the project: ..................................................................................................

- Animal care and use experience:

🞎 ........... Year(s) experience 🞎 No experience.

🞎 Completed training in research involving animals (Not training for Animal use license)

 Please specify the date: ..................................

🞎 Not yet trained.

2. Name-Family Name .......................................................Position: .......................................................

- Contact information ...............................................................................................................................

 Tel ........................................ Mobile ................................................. Fax ............................................

 Email .....................................................................................................................................................

- Duty and Responsibility in the project: ..................................................................................................

- Animal care and use experience:

🞎 ........... Year(s) experience 🞎 No experience.

🞎 Completed training in research involving animals (Not training for Animal use license)

 Please specify the date: ..................................

🞎 Not yet trained.

3. Name-Family Name .......................................................Position: .......................................................

- Contact information ...............................................................................................................................

 Tel ........................................ Mobile ................................................. Fax ............................................

 Email .....................................................................................................................................................

- Duty and Responsibility in the project: ..................................................................................................

- Animal care and use experience:

🞎 ........... Year(s) experience 🞎 No experience.

🞎 Completed training in research involving animals (Not training for Animal use license)

 Please specify the date: ..................................

🞎 Not yet trained.

**4. Animal caretaker/Attending veterinarian of the unit or Attending veterinarian of the project**

1. Name-Family Name .......................................................Position: .......................................................

- Affiliation ..............................................................................................................................................

- Contact information ...............................................................................................................................

 Tel ........................................ Mobile ................................................. Fax ............................................

 Email .....................................................................................................................................................

- Duty and Responsibility in the project: ..................................................................................................

- Animal use license no. U1-🞎🞎🞎🞎🞎-🞎🞎🞎🞎

- Animal care and use experience: 🞎 ...........Year(s) experience 🞎 No experience

2. Name-Family Name .......................................................Position: .......................................................

- Affiliation ..............................................................................................................................................

- Contact information ...............................................................................................................................

 Tel ........................................ Mobile ................................................. Fax ............................................

 Email .....................................................................................................................................................

- Duty and Responsibility in the project: ..................................................................................................

- Animal use license no. U1-🞎🞎🞎🞎🞎-🞎🞎🞎🞎

- Animal care and use experience: 🞎 ...........Year(s) experience 🞎 No experience

**Co-coordinator in case of emergency (please specify)**

Name ....................................................................... Position..................................................................

Department ....................................................................... Tel ................................................................

Email .......................................................................................................................................................

**5. Funding sources**

🞎 Funded by ......................................................................... Budget: ........................................... Baht.

🞎 Proposal has been submitted to ........................................ Budget: ........................................... Baht.

🞎 No funding

🞎 Bachelor/Master/Doctoral Project/Thesis

## Funding period (Start of the Project: ........................................) (End of the project: ........................................)

**6. Type of Protocol**

❒ Research/Thesis/Special project

🔿 Basic research in the field of..................................................................................................

🔿 Applied research in the field of..............................................................................................

🔿 Pre-clinical research in the field of.................................................................................

🔿 Animal Habitat Survey (describe the place of the study) .......................................................

❒ Testing, type of substance tests ..........................................................................................................

❒ Biological material production, type of biological material production..............................................

❒ Other, please specify ..........................................................................................................................

**7. Scientific justification for using animals and why an alternative method cannot be used (please explain in detail)**

 7.1 Replacement: is there any alternative method that can replace animal use? If not, please give reasons.

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 7.2 Reduction: how can you reduce the number of animals used in the study?

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 7.3 Refinement: Please specify the refinement of experimental procedures to minimize pain or distress of animals.

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 7.4 Expected benefits to Human/Animal and academia.

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 7.5 In case of wild animal, please specify the reasons for using the particular animals or the reasons that other animal cannot be used.

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**8. Details of animal use for scientific purposes (please explain in detail)**

8.1 The period of Animal Use from (dd/mm/yy) ..............................end (dd/mm/yy) ............................

Total period……………………. (days/months/years)

 8.2 Animal husbandry and use for scientific research projects .................................................................

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8.3 Information of the animal used in the study

 🞎 Testing Animal 🞎 Pet and Farm animal 🞎Wild animal 🞎 Insects

1. Species/groups of animals............................................... strain ..............................................

Gender ................................................ Age.................................................. week/month/day

Weight................................................ grams/kg

Number used................................................

2. Species/groups of animals............................................... strain ..............................................

Gender ................................................ Age.................................................. week/month/day

Weight................................................ grams/kg

Number used................................................

3. Species/groups of animals............................................... strain ..............................................

Gender ................................................ Age.................................................. week/month/day

Weight................................................ grams/kg

Number used................................................

8.4 Total number of animals used throughout the project ……............. (Please ensure that it is in accordance with the research methodology)

8.5 Justifications for using a particular species (Presence of previous related works, characteristics of the species, availability, etc)

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**9. Types of Animals**

 9.1 Animal source

 🞎 Wild animals, please specify...................................................................................................

 🞎 Pet or Farm Animal, please specify the source........................................................................

 🞎 Produced within the research unit/institution, please specify..................................................

 🞎 Obtained from licensed dealers within Thailand or overseas.

 Name of Company: ................................................... Country: .............................................

 🞎 Other (please specify) .............................................................................................................

 9.2 Quality of animals from the source

🞎 There is an evidence of genetic predisposition and stability

🞎 There is an evidence that the animals are raised in strict hygienic conventional system.

🞎 There is an evidence that the animals are raised in a specified pathogen-free system (SPF System).

 (Specific pathogen species ............................................................................................)

🞎 There is the evidence that the animals are completely sterile (raised in Germ-Free System).

🞎 No evidence or supporting documents.

🞎 Other (specify)...................................................................................................................

9.3Altered genetics or other characteristics (for example, pregnancy, lactation) and methods of nurturing (if any)

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**10. Animal Care and Use**

 🞎 Animals are housed 🞎 **No housing** (Go to item 11)

10.1 Nature of the Facilities needed

Clearly specify the organization/location for raising and caring for laboratory animals throughout the project.

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10.2 Housing System

 🞎 Non-conventional/Natural Habitat System

 🞎 Conventional System

 🞎 Strict Hygienic Conventional (SHC) System

 🞎 Specified Pathogen-Free (SPF) System

 🞎 Germ-free System

 🞎 Biohazard Containment System

 🞎 Housing with Animal Biosafety Level \_\_\_\_ (ABSL)

 🞎 Other, please specify .............................................................................................................

10.3 Environmental requirement

 Temperature................... ºC Humidity................... %

Ventilation ..................... Light ........................ (Lux or Foot-candle) Light ratio between night and day.....................hour/...................hour.

Water quality (for aquatic animal, please specify acidity/alkalinity, nitrite, nitrate and ammonia levels) ..........................................................................................................................

Noise Control 🞎 No Yes, please specify........................................

Odor Control 🞎 No Yes, please specify........................................

Power/Water supply 🞎 No Yes, please specify........................................

Other, please specify ...................................................................................................................

10.4 Caging/Sheltering Facilities

🞎 Cage/Stall/housing Area, size .......................................................

🞎 Hanging cage

🞎 Metabolic cage

🞎 Individual Ventilation Cage (IVC)

🞎 Rectangular cage / Shoebox size (Width X Length X Height) ................................cm.

Made from 🞎 Stainless steel 🞎 Plastic 🞎 Other (specify............................................................

Number of pets .......................................... per Cage/Stall/Housing area

10.5 Food (you can 🗹 more than one)

 🞎 Instant food 🞎 Self-produced food 🞎 Other, please specify ................................

 Frequency of feeding (Please specify) ........................................................................................

 Volume/amount of feed (Please specify): ...................................................................................

 Other, please specify ...................................................................................................................

10.6 Water

 🞎 Tap water 🞎 Underground water

🞎 Filtered water 🞎 Other, please specify ..........................................................

**Feeding method** (you can 🗹 more than one)

🞎 In a bottle 🞎 Automatic method

🞎 Other, please specify ..........................................................

 **Frequency of feeding, please specify**..........................................................

 **Volume of Feeding, please specifiy**..........................................................

10.7 Bedding

 🞎 No

 🞎 Yes, please specify Frequency of changing, please specify ....................................day(s)

**11. Research Methodology**

11.1 Experimental design

- Statistics used in research design/sample size calculation/result analysis (If there are references, please attach them) (please specify in detail)

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- Explain the treatment/experimental group, control group allocation process and number of animals in each group

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11.2 Specify the procedures and methods of animal testing in detail, such as surgery, animal anesthesia, pre-and post-surgery procedures, substances injection into the animal, animal husbandry and care throughout the experiment, surveying animals by setting up a camera, satellite photography, etc. **If it is too complicated, please create a flow chart.**

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11.3 Animal stress and pain relief

- Specify methods to relieve stress and pain

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- In cases inflict pain to the animal is necessary, but there is no pain relief method provided. The reasons must be clearly stated.

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11.4 Using animals outside the premises (if any)

- Place that animals will be used...............................................................................................................

- Specify reasons and necessity to bring animals to use outside the premises.

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- Length of time to use the animal............................................................................................................ - How to move animals from the housing facility

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- How to deal with animals after use

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11.5 Experimental Endpoint (Please specify detail)

- Endpoint as Study Plan *(In case the study did not cause pain in the animal, once the experimental results are complete, hence the experiment is ended.)*

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- Early Endpoint Criteria *(meaning if the researcher is able to complete the experiment before the time limit specified in the research plan (How do researchers treat laboratory animals?)*

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- Criteria to consider the endpoint of the experiment to allow the animal to die peacefully during the experiment without waiting for the animal to die *(Humane Endpoint—that is, if during the experiment, the animals exhibited various abnormalities; thus, the experiment cannot be continued. what is the criteria for determining the anomalies of laboratory animals in order to terminate the experiment.)*

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- Reason and the necessity of using death as an endpoint *(If end of the animal's life expectancy is required as an endpoint of the experiment.* ***If it is not related to your project, state “Not applicable”.****)*

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**12. Techniques for treating animals**

12.1 What are activities you do to the animals? (Specify all techniques related)

🞎 Animal capture and control 🞎 Animal marking

🞎 Giving the substance (Answer 12.2) 🞎 Collecting a blood sample (Answer 12.3)

🞎 Carcass 🞎 Collecting other animal samples.

 (Answer to question 12.4)

🞎 Anesthesia (Answer 12.5) 🞎 Surgery (Answer 12.6)

🞎 Inhabited animal surveys

🞎 Other (specify) ..........................................................

12.2 Substance, area and quantity used in the project.

Name of substance or drug administered ....................................................................................

Quantity given (specify units) .....................................................................................................

Size/length of needle and/or catheter cable ................................................................................

Frequency of dosing per day .......................................................................................................

Location/area where the substance is delivered.

🞎 Oral (Oral)

🞎 Intradermal, at the injection site ................................................................................

🞎 Subcutaneous, at the injection site .............................................................................

🞎 Intramuscular, at the injection site .............................................................................

🞎 Intraperitoneal, at the injection site ............................................................................

🞎 Intravenous, at the injection site ................................................................................

🞎 Other (specify) ..........................................................................................................

Possible dangers and how to prevent danger and how to dispose of the substance after use (please specify).

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12.3 Blood Collection (In case of anesthesia, specify what anesthesia is used)

🞎 Survival 🞎 Non-survival

Anatomic location (please specify) ..............................................................................

Anesthesia ..................................................Volume..................................ml/time/animal

 Frequency (times/animal/day) ..............................................................................

Average percentage of blood .......................................... /body blood

12.4 Body fluid withdrawal/tissue collection/injections, tail clip, Gavaging

12.4.1 Collection of tissue parts/organs/others from animal body 🞎 No

🞎 Yes (specify) ...............................

🞎 Collect while the animal is alive 🞎 Collect after the end of the experiment

Tissue parts/organs collected/other.

1..................................................................amount (specify the unit).........................................

2..................................................................amount (specify the unit).........................................

3..................................................................amount (specify the unit).........................................

12.4.2 Collect stool samples 🞎 No 🞎 Yes (please specify) .............................................

- Method......................................................................................................................................

- Types of materials and equipment that aid in sample collection ...............................................

- Frequency of collection per day per animal ..............................................................................

12.4.3 Collect urine sample 🞎 No 🞎 Yes (please specify) ..............................................

- Method......................................................................................................................................

- Types of materials and equipment that aid in sampling .............................................................

- Frequency of collection per day per animal ..............................................................................

12.5 Anesthesia

- Name of anesthesia given ......................................................................................................................

- Quantity given (specify units) ................................................................................................................

- Location of anesthesia............................................................................................................................

- Specify the method of anesthesia............................................................................................................

- Frequency on surveillance of asphyxiation during anesthesia period ...................................................

**- Which of the following do you use to assess the level of animal unconsciousness ? (more than one answer is allowed)**

🞎 Respiration rate 🞎 Heart rate

🞎 Electrocardiogram (ECG) 🞎 Toe pinch

🞎 Tail pinch 🞎 Corneal reflex

🞎 Color of mucous membrane 🞎 Muscular relaxation

🞎 Blood pressure 🞎 Body temperature

🞎 Other (e.g., Pulse oximeter), please specify .........................................................................................

Explain how do you treat the animals while recovering from anesthesia.

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12.6 Surgery (In case of using general anesthesia, specify what anesthesia is used)

🞎 Survival 🞎 Non-survival

Anesthesia name and dosage ....................................................................................................................

Amount of anesthesia given (specify the name and unit) .........................................................................

- Type of surgery (more than one answer is allowed)

🞎 major surgery-opening the abdomen/chest (Major)

🞎 minor surgery-not opening the abdomen/chest (Minor)

🞎 One operation (One time)

🞎 More than one operation (Multiple times)

- Please provide the following details

Room/place used for surgery ......................................................................................................

Name of person performing surgery/ experience in surgery .......................................................

Name of the veterinarian who supervises the surgery .................................................................

Location of surgery .....................................................................................................................

- Details of surgery (specify procedures, methods, equipment, drugs/chemicals) (please specify in detail)

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- How do you treat the animal after surgery (post-surgical care and treatment) (please specify in detail)

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**13. Treatment of animals after the Project endpoint**

13.1 Animal treatments from Project Completion

🞎 Animals die after surgery or sample collection.

🞎 Animals live after project completion and euthanasia would be performed.

- Methods, equipment, and location for the euthanasia

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- Reasons for the euthanasia of animals according to accepted standards with reference evidence

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- How to determine the death of an animal

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🞎 Animals will be used in other projects (please specify reasons with attached projects that will continue to use the animals)

🞎 Released back to nature

🞎 Other (specify method and reason) ......................................................................................................

13.2 Treatment of carcasses after the completion of the project to prevent the spread of germs, toxins, and pollution to the environment

🞎 Store in a cold room and sent to be burned in a kiln

🞎 Landfill

🞎 Other (specify) ...................................................................................................................................

14. Equipment to prevent danger to operators and prevention of the spread of toxins/germs (please specify)

- Equipment to prevent harm to operators

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- Equipment to prevent the spread of toxins/germs

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- Equipment to prevent danger from working with animals

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**Researcher Testimonials**

1. I hereby certify that I have personally verified the accuracy of all information presented to Institutional Animal Care and Use Committee of King Mongkut's University of Technology Thonburi and acknowledge the Ethics for Using Animals for Scientific Purposes.
2. I hereby certify that I will treat animals in accordance with the Code of Conduct and standards and guidelines for animal care and use for scientific purposes and the methods proposed in this research project. I will not neglect the animals and make sure to provide enough water and food to meet their needs. Strict restrictions on infection prevention and the spread of infection will be in accordance with the established operational standards and guidelines.
3. I hereby certify to use the animal to its maximum efficiency while recognizing the value of life and morals according to religious principles as well as welcoming Institutional Animal Care and Use Committee of King Mongkut's University of Technology Thonburi to monitor and verify.

|  |  |
| --- | --- |
| Signature ...................................................(...........................................................)Research Principal Investigator/StudentDate / /  | Signature ...................................................(...........................................................)Dean/DirectorDate / /  |

**“The information will be kept as a confidential document.”**