**ANIMAL USE PROTOCOL (AUP)**

เลขรับ

วันที่รับ

(For office use only)

**FOR PERMISSION OF ANIMAL CARE AND USE**

ศูนย์สัตว์ทดลอง มหาวิทยาลัยเชียงใหม่

แบบฟอร์มนี้ สามารถกรอกเป็นภาษาไทยหรือภาษาอังกฤษ ยกเว้น ข้อ 4.1 จะต้องกรอกเป็นภาษาไทยเท่านั้น

**1.** **Title of Animal Use Protocol**

|  |
| --- |
| Thai: |

|  |
| --- |
| English:  |

|  |
| --- |
| **Principle Investigator :** |
| **Type of Animal Use Protocol :**  Teaching / Training Course title: Testing / Monitoring / Research in the field of: Biological production Specify: Animal breeding Specify: Field Study Specify: Other Specify: |
| **Type of Animal Use** : LAC Program Rodents & Rabbit AG (Cattle) AQ BR - Other  Field animals  Farm AG :  |
| **Is there any** **grant submitted?** No Grant  Submitted   Approved, Period of approval: **Funding Source:**  |

*\*\** *Contact person(s) in case of emergency:*

|  |  |
| --- | --- |
| Name 1: Cell phone 1:Email 1: | Name 2: Cell phone 2:Email 2: |

**2.** **Investigator**

**2.1 Principle investigator (PI):**

|  |  |
| --- | --- |
| Name |  |
| Affiliation |  |
| Position |  |
| Education |  |
| Tel.number |  | E-mail |  |
| Thai Lab. Animal Use License |  |
| Recent Publication( 5 years) |  |

**2.2 *Co-investigators:*** *(Please list the information of all co-investigator)*

|  |  |
| --- | --- |
| Name |  |
| Affiliation |  |
| Position |  |
| Education |  |
| Tel.number |  | E-mail |  |
| Thai Lab. Animal Use License |  |
| Recent Publication( 5 years) |  |

**2.3 Animal Handling Staff:** *(Please list the information of all Lab members below)*

|  |  |
| --- | --- |
| Name |  |
| Affiliation |  |
| Position |  |
| Education |  |
| Tel.number |  | E-mail |  |
| Thai Lab. Animal Use License |  |
| Training |  LAC: Course 1 Basic training (Rodents & Rabbits) Date: LAC: Course 2 Practical training A Date: LAC: Course 3 Practical training B Date: Species-Related Training for AG, AQ, Field or Other Animals : |

**3. Is there any** **hazardous agents:  No ** Yes

** Exemption** (**ประกาศกระทรวงสาธารณสุข เรื่อง การเก็บตัวอย่างจากยา อาหาร ผลิตภัณฑ์สุขภาพ สิ่งแวดล้อม หรือการตรวจวิเคราะห์ทางห้องปฏิบัติการ เพื่อประโยชน์ด้านการแพทย์และการสาธารณสุขที่เกี่ยวกับเชื้อโรคและพิษจากสัตว์)**

- Use of hazardous agents requires the approval of the institutional Biosafety Committee (IBC). If no IBC approval number, AUP cannot be submitted. *(Please attach documentation of approval from IBC)*

|  |  |
| --- | --- |
| Hazardous Agent | Agent |
| **** Biological agent | **** Pathogens, specify;(ประกาศกระทรวงสาธารณสุข เรื่อง รายการเชื้อโรคที่ประสงค์ควบคุมตามมาตรา 18)**** Animal toxins, specify; (ประกาศกระทรวงสาธารณสุข เรื่อง รายการเชื้อโรคที่ประสงค์ควบคุมตามมาตรา 19) |
| **** Modern biotechnology & Genetic engineering  | - Recombinant & Synthetic nucleic acid molecule, Genome editing, Synthetic biology, GMOs working with genetic material, host and recipient cell, donor organism, vector, inserted DNA, Genome, Cell-line, Hybridoma- แนวทางปฏิบัติเพื่อความปลอดภัยทางชีวภาพสำหรับการดำเนินงานด้านเทคโนโลยีชีวภาพสมัยใหม่ หรือพันธุวิศวกรรม, คณะกรรมการเทคนิคด้านความปลอดภัยทางชีวภาพ ศูนย์พันธุวิศกรรมและเทคโนโลยีชีวภาพแห่งชาติPlease specify; |
| **** Hazardous chemical | Please specify; |
| **** Radionuclides | Please specify; |

|  |  |
| --- | --- |
| IBC-Approved no. |  CMUIBC -  |
| Approved until |  |

**4.1 Non-technical summary**

*(Please provide a brief description of the protocol that is easily understood by non-scientists, expressing its significance and your reasons for performing the study.)*

*กรุณาเขียนเป็นภาษาไทยเท่านั้น เพื่อให้คณะกรรมการฯ ในส่วนสมาชิกที่ไม่มีพื้นฐานความรู้ด้านวิทยาศาสตร์ซึ่งได้มาจากภายในหรือภายนอกสถาบัน และสมาชิกจากสาธารณะที่เป็นตัวแทนความสนใจของชุมชนต่อการดูแลและการใช้สัตว์อย่างถูกต้องได้อ่านและทำความเข้าใจ*

|  |
| --- |
| 4.1.1 หลักการและความสำคัญของการใช้สัตว์ทดลอง- วัตถุประสงค์: - สมมติฐาน:- หลักการและความสำคัญ: 4.1.2 สัตว์ทดลองและวิธีการใช้สัตว์ทดลอง - แผนภาพการศึกษาทดลอง (*กรุณาระบุชนิดและจำนวนสัตว์ทดลองแต่ละกลุ่มลงในแผนภาพด้วย*)- รายละเอียดวิธีการใช้สัตว์ทดลอง4.1.3 ผลที่คาดว่าจะได้รับ / ประโยชน์ที่ได้จากการทำวิจัย- |

**4.2** **Rationale:***(Include a brief statement of the requirement for the information being sought. Typically, the literature or the experience that led to the proposal will be briefly reviewed, references cited will be provided.)*

|  |
| --- |
|  |

**5.** **Study objective/hypothesis:** *(Provide goal/specific aim of this project)*

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| --- |
| - Objective: - Hypothesis: |

**6.** **Description of experimental design:**

*(Please provide a flowchart / diagram of the experimental design and brief description)*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  - flowchart / diagram of the experimental design:- Description of experimental design:- Testing substance(s)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Name | Concentration | Dose | Volume of Administration | Route/Site |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

 |

*(Please check yes if applicable)*

|  |  |  |  |
| --- | --- | --- | --- |
| Experimentation |  No | Yes | Specify |
| 6.1.1 Anesthesia (Non-surgical related) |  |  | - Drug (Concentration):- Dose: - Volume:- Route/Site:- Purpose: |
| 6.1.2 Anesthesia (Surgical related) |  |  | - Drug (Concentration):- Dose: - Volume:- Route/Site: |
| 6.2.1 Analgesics**** Pre-operative**** Post-operative****:  |  |  | - Drug (Concentration):- Dose: - Volume:- Frequency:- Route/Site:- Purpose: |
| 6.2.2 Antibiotics |  |  | - Drug (Concentration):- Dose: - Volume:- Frequency:- Route/Site:- Purpose: |
| 6.2.3 Fluid Replacement |  |  | - Type:- Dose: - Volume:- Frequency:- Route/Site:- Purpose: |
| 6.3 Surgery (Aseptic techniques)**** Single survival surgery**** Multiple survival surgery **** Non-survival surgery |  |  | **** Pre-operative procedures:**** Operative procedures:**** Anesthesia recovery care:**** Post-operation care: |
| 6.4 Blood or Body Fluid Withdrawal |  |  | - Site:- Volume:- Frequency:- Purpose: |
| 6.5 Tissue Sampling |  |  | - Organ:- Purpose: |
| 6.6 Animal disposition**** Non-Euthanasia **** Animal will be donated for training AUP **** Animal will be held for next AUP ** :****** Euthanasia

|  |  |
| --- | --- |
| Primary Method | Secondary Method |
| **** Overdose Barbiturates or Derivatives**** Overdose Anesthetics**** CO2 Asphyxiation**** Cervical Dislocation**** Decapitation **** : | **** Overdose Barbiturates or Derivatives**** Overdose Anesthetics**** CO2 Asphyxiation**** Cervical Dislocation**** Decapitation**** : |

|  |  |  |  |
| --- | --- | --- | --- |
| Drug(s) | Dose | Volume of Administration | Route |
|  |  |  |  |
|  |  |  |  |

(*Anesthetics, Analgesics, Antibiotics & Experiment-related information*: Please visit http://www.lac.cmu.ac.th/) |
| 6.7 Carcass Disposal  ** No ** Yes

|  |  |
| --- | --- |
| **** Incineration  | **** Laboratory Animal Center**** : |
| **** Alkaline Hydrolysis (Tissue Digester) | **** Laboratory Animal Center**** : |
| **** Specify: | **** : |

(*Carcass will be disposed after stored in refrigerators at 4OC for 7 days or in freezers at -20OC for 28 days*) |

**7.1** **Data analysis and Statistical method**:

*(Please list the statistical tests planned or describe the strategy intended to evaluate the data.)*

|  |
| --- |
| 7.1.1 Experimental parameter(s)- Primary parameter / Primary outcome- Secondary parameter / Secondary outcome7.1.2 Statistical method: |

**7.2 Animal number justification:**

**(***Please provide an explanation of how the numbers of animals to be used in each group or total were appropriate. Number of animals used in the experiment should be based on scientific and statistical requirements to achieve objectives).*

|  |
| --- |
| - Statistic test:- Effect size:- Reference of effect size: - α error:- Power:- Result:- Statistical program used:- Screen capture: |
| - Sample size = - N per group =- % Loss =  **** 0%  **** 10% ****20% (Surgical-related)- % Success of model induction =  **** 100% **** Specify:**Total sample size** =  |

**8.** **Animal model and Species justification**

**8.1 Description of animal(s)**

|  |
| --- |
| **Source/Vendor:**  NLAC Mahidol University  M-CLEA Nomura Siam   Specify:  |
| **Common name (Scientific name)** | **Strain/Stock** | **Sex**  | **Age** | **Weight** |
| **** Mice (*Mus musculus*) | ****ICR****BALB/c****C3H****C57BL/6****Nude (BALB/c)**** | **** M**** F | **** 4 - 6 wks.**** 6 - 8 wks.**** 8 -10 wks.**** 10-12 wks.****: | **** 15 g.**** 20 g.**** 25 g.**** 30 g.****: |
| **** Rats (*Rattus norvegicus*) | ****WI****SD****LEW****F344****: | **** M**** F | **** 4 - 6 wks.**** 6 - 8 wks.**** 8 -10 wks.**** 10-12 wks.**:**  | ****150 g.****200 g.****250 g.****300 g.****: |
| **** Rabbits (*Oryctolagus cuniculus*) | **** NZW****: | **** M**** F | **** **≤6** mo.**** 6-12 mo.**:** | **** 2 kg.**** 3 kg.**:**  |
| **** Other: The permit or license of animal care**** LAC CMU by IAD, NRCT**:** | **:** | **** M**** F | **:** | **:** |

**8.2 Is there any special requirement about the animals**?  ** No ** Yes

*(Please list specialized requirements for the research animals, e.g. certain antibody or virus free)*

|  |
| --- |
|  |

**8.3 Animal model and species justification**

**(***Please provide a scientific justification for the choice of animal models)*

|  |
| --- |
| **** No other alternatives.**** This is a standard animal model commonly used for these kind of studies.**** OtherPlease specify: |

**8.4 Is there any alternatives?**  ** No ** Yes

|  |
| --- |
| *If yes, please explain the alternatives*: |

**8.5 Does the proposed research duplicate any previous work?**

 ** No ** Yes

|  |
| --- |
| *If yes, please explain why it is scientifically necessary to duplicate the experiment*: |

**9. Husbandry consideration**

*-* *Animal care will be provided by LAC Staff only for rodents & rabbits*

|  |  |
| --- | --- |
| 9.1 Study location LAC facility Other:  | **- Will animals be transported and kept outside of LAC facility?** No  Yes; If yes, where: - For how long: - Purpose: |
| 9.2 Housing system |  Clean conventional  Animal Biosafety Level 1 or 2  Other; |
| 9.3.1 Caging |  Filter-top cage  Individual Ventilated Cage (IVC)  Metabolic cage  Standard rabbit cage with pan  Other:  |
| 9.3.2 Housing condition |  Group or Pair housing Single housing – Justification:  Other: |
| 9.4 Environmental control | Standard Setting | Others |
| Temperature: |  21 + 1 °C  |  specify: |
| Humidity:  |  50 + 10 % |  specify: |
| Light:  |  325 lux  |  specify: |
| Light cycle:  |  dark/ light : 12/12 |  specify: |
| Noise | < 85dB  |  specify: |
| 9.5.1 Food  |  Standard diet  |  specify: |
| 9.5.2 Feeding schedule |  *ad libitum* food restriction |  Feed intake measurement (weekly)  specify: |
| 9.6.1 Water |  RO water Irradiated water |  specify: |
| 9.6.2 Drinking schedule |  *ad libitum* Water restriction |  Water intake measurement (weekly)  specify: |
| 9.7 Enrichment | It is LAC CMU policy to provide environmental enrichment for all laboratory animals through nesting material or other methods. **Is this acceptable?**  Acceptable  Not acceptable, specify:  Other, specify: |

**10.** **Humane endpoint (Early Endpoint)**

 *(The animals are humanely euthanized prior to the expected date of study termination)*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **10.1 Is there early endpoint to be used?  No ** Yes **10.2 Early Endpoint Criteria using scoring system are:***- Death as an endpoint must be scientifically justified.**- List the criteria that will be used to determine when euthanasia is to be performed.* **** 1. Behavior and Physical appearance

|  |  |  |
| --- | --- | --- |
| Score | Criteria for rodents and rabbits | Other, please specify: |
| 0 | Normal appearanceHealthy with normal activity |  |
| 1 | Lack of grooming, Weakness*,*Inappetite, Dehydration  |  |
| 2 | Rough coat, Lethargy, Isolation,Porphyrin staining (Eye, Nose, Mouth) |  |
| 3 | Do not movement, InactivityHunched posture (*±* Clinical signs) |  |

**** 2. Body weight change

|  |  |
| --- | --- |
| Score | Criteria |
| 0 | Normal or Increase  |
| 1 | < 10% weight loss |
| 2 | 10 – 20% weight loss |
| 3 | > 20% weight loss |

**** 3. Grimace scale

|  |  |
| --- | --- |
| Score | Criteria |
| 0 | Grimace score = 0 |
| 1 | Grimace score = 0.1 – 0.9 |
| 2 | Grimace score = 1.0 – *1.9* |
| 3 | Grimace score = 2.0 |

**** 4. Protocol-related criteria *(e.g., tumor size, clinical symptomatology, signs of toxicity, hormone fluctuation or other clinical pathology change must be specified when the administration of tumor cells, biologics, infectious agents, radiation or toxic chemicals are expected to cause significant symptomatology or are potentially lethal.)*  Specify;

|  |  |
| --- | --- |
| Score | Criteria, please specify: |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |

**10.3 Early euthanasia will be done**  (1.) When body weight loss more than 20% of previous maximum weight or: ***(***2.) When ****** 3 Criteria & Total score ≥ 6 / 9****** 4 Criteria & Total score ≥ 8 / 12****** Specify;  |

**11. Is there any** **Non-pharmaceutical-grade compounds?  No ** Yes

*(Please identify all of any drugs, biologics, or reagents that will be administered to animals. If these agents are not human or veterinary pharmaceutical-grade substances.)*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *If yes and possible, please provide a scientific justification for their use and describe methods that will be used to ensure appropriate preparation and administration*:**- NPG final compounds No. 1 :**

|  |  |
| --- | --- |
| 1. Source / Provider |  |
| 2. Formulation / Composition |  |
| 3. Appearance |  |
| 4. Site and Route of administration |  |
| 5. Other |  |

 |

**12.1 Is there any** **restraint with mechanical devices?  No ** Yes

*If yes, please describe:*

|  |  |
| --- | --- |
| Device for restraint |  |
| Duration of restraint  |  |
| Frequency of observation |  |
| Steps to assure comfort and well-being | **** Consciousness **** Respiration rate**** Mucous Membrane/Capillary Refill Time****: |

**12.2 Is there any sedation with chemical agents?  No ** Yes

*If yes, please describe:*

|  |  |
| --- | --- |
| Chemical agents | Drug:Dose:Volume of administration:Frequency:Route/Site: |
| Duration of sedation |  |
| Frequency of observation |  |
| Steps to assure comfort and well-being | **** Consciousness **** Respiration rate**** Mucous Membrane/Capillary Refill Time****: |

**13. Is there any** **deprivation of food / water, or manipulation of dietary?**

 *If yes, please describe:*  ** No ** Yes

|  |  |
| --- | --- |
| Procedure | **** Food Restriction  **** Food Deprivation**** Fluid Restriction **** Water Deprivation**** Nutrient Alterations, specify; |
| Duration |  |
| Frequency of observation |  |
| Steps to assure comfort and well-being | **** General appearance**** Food/Water intake monitoring every……….days****:  |
| - Weight monitoring Individual animal’s weight is monitored at least once a week. Individual animal’s weight is monitored every days Specify; |

**14. Is there any** **tumor and disease models or toxicity testing?**

 *If yes, please describe:* ** No ** Yes

|  |  |
| --- | --- |
| Model and Methodology |  |
| Duration of study |  |
| Frequency of observation |  |
| Steps to assure comfort and well-being | **** General appearance**** Gait / Posture/ Movement****: |

**15. Is there any** **behavioral studies?**  ** No ** Yes

*If yes, please describe:*

|  |  |
| --- | --- |
| Model and Methodology |  |
| Device or Apparatus |  |
| Duration of study |  |
| Frequency of study |  |
| Steps to assure comfort and well-being | **** General appearance**** Gait / Posture / Movement****: |

#### 16. Is there any field studies?  No  Yes

#### *(If animals in the wild will be used, describe how they will be observed, any interactions with the animals, whether the animals will be disturbed or affected, and any special procedures anticipated. Indicate if any permits/licenses are required for working with these animals and whether they have been obtained.) If yes, please describe:*

|  |  |
| --- | --- |
| Model and Methodology |  |
| Duration of study |  |
| Frequency of study |  |
| Steps to assure comfort and well-being |  |
| Is there any requirements of permit or license for the study? If yes, please specify the permit or license no. |  **** No ** Yes** : |

#### 17.1 Are there special concerns or requirements of the study?

####   No  Yes

#### *List any special housing, equipment, animal care or any departures from normal practice at LAC CMU facility (e.g., special caging, water, feed, environmental enrichment, etc.)*

|  |
| --- |
| *If yes, please describe special concerns or requirements of the study*:  |

#### 17.2 Is there any plans to collect or preserve the tissues for further study?

####   No  Yes

|  |
| --- |
| - Organ: - Preserve condition: |

#### 18. Assurances:

####  As Principal investigator on this protocol, I verify that the information herein is true and correct and that I am familiar with and will comply with standard of animal care and use established under the ethical guidelines and policies of Laboratory Animal Center of Chiang Mai University, and Office of the National Research Council of Thailand (NRCT). Additionally, I acknowledge my responsibilities and provide assurances for the followings:

 **A. Animal Use:** The animals authorized for use in this protocol will be used only in the activities and in the manner described herein, unless a modification is specifically approved by the CMU ACUC prior to its implementation.

 **B. Duplication of Effort:** I have made every effort to ensure that this protocol is not an unnecessary duplication of previous experiments.

 **C. Statistical Assurance:** I assure that I have consulted with a qualified individual who evaluated the experimental design with respect to the statistical analysis, and that the minimum number of animals needed for scientific validity will be used.

 **D. Biohazard/Safety:** I have taken into consideration and made the proper coordination regarding all applicable rules and regulations concerning radiation protection, biosafety, recombinant issues, and so forth, in the preparation of this protocol.

 **E. Training:** I verify that the personnel performing the animal procedures or manipulations described in this protocol are technically competent and have been properly trained to ensure that no unnecessary pain or distress will be caused to the animals because of the procedures or manipulations.

 **F. Responsibility:** I acknowledge the inherent moral, ethical and administrative obligations associated with the performance of this animal use protocol, and I assure that all individuals associated with this project will demonstrate a concern for the health, comfort, welfare, and well-being of the research animals. Additionally, I pledge to conduct this study in the responsibility for implementing animal use alternatives where feasible, and conducting humane and lawful research.

 **G. Scientific Review:** This proposed animal use protocol has received appropriate peer scientific review and is consistent with good scientific research practice.

 **H. Painful Procedures:** (A signature for this assurance is required by the Principal Investigator if the research being conducted has the potential to cause more than momentary or slight pain or distress even if an anesthetic or analgesic is used to relieve the pain and/or distress.)

 I am NOT conducting biomedical experiments, which may potentially cause more than momentary or slight pain or distress to animals.

 **I. Research studies:** CMU ACUC will be notified of any changes in the proposed project, or personnel, relative to this application. I will not proceed with animal experiment until approval by the CMU ACUC is granted.

Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 ( )

Principal Investigator

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 ( )

Supervisor / Head of Department

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**\* เฉพาะเจ้าหน้าที่ศูนย์สัตว์ทดลอง ศูนย์สัตว์ทดลอง (สำนักงานบริหารงานวิจัย มหาวิทยาลัยเชียงใหม่) \***

Laboratory Animal Use Protocolได้รับการประสานงานเพื่อขอรับ การพิจารณาอนุมัติตามขั้นตอน และระเบียบปฏิบัติของศูนย์สัตว์ทดลอง (สำนักงานบริหารงานวิจัย มหาวิทยาลัยเชียงใหม่) แล้ว โดยมีหมายเลขรับ Animal Use Protocol ที่ยื่นเสนอขอรับการพิจารณาอนุมัติเป็น

รหัสโครงการ………………………………………………………………….……………………………………………………..……………

ลงชื่อเจ้าหน้าที่ (ตัวบรรจง) …………………………………………………….............ลงวันที่......................…....……………

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**\* เฉพาะเจ้าหน้าที่ศูนย์สัตว์ทดลอง ศูนย์สัตว์ทดลอง (สำนักงานบริหารงานวิจัย มหาวิทยาลัยเชียงใหม่) \***

Animal Use Protocol นี้ได้รับการอนุมัติให้ดำเนินการ ในวันที่.....................................................................โดยมีการรับรองเอกสาร ซึ่งลงนามโดยประธานคณะกรรมการฯ ในวันที่ ......................................................และ ลงนามโดยรองผู้อำนวยสำนักบริหารงานวิจัย มหาวิทยาลัยชียงใหม่ ในวันที่........................................ ทั้งนี้สามารถดำเนินการได้ตั้งแต่........................................................................................................... เป็นต้นไป

รหัสดำเนินการ คือ................................................................................................................................................

ลงชื่อเจ้าหน้าที่ (ตัวบรรจง) ………………………………………………….….............ลงวันที่......................……….....………