



國家衛生研究院
National Health Research Institutes

Animal Care and Use Program & Animal Protection Act & Animal Welfare

Hsin-Ying Wu, D.V.M, Ph.D.

Specialist/Veterinarian

Laboratory Animal Center (LAC)

Ext. 32915



國家衛生研究院

實驗動物中心

Laboratory Animal Center of NHRI



[首頁](#) [加入我的最愛](#) [國衛院](#) [English](#) [管理介面](#)

▶ 最新消息

▶ 實驗動物照護及使用委員會

▶ 台灣斑馬魚核心設施

國家衛生研究院實驗動物中心-教育訓練課程與報名說明

2019年02月27日更新

中心簡介

教育訓練

服務與收費

申請與表單

中心年報

參考資料

意見分享

動物福祉舉報

網站連結

教育訓練課程與報名

演講系列

標準操作程序 (SOP)

院外人員

院內人員
(僅供院內系統連結)

院內人員-收費標準

院內同仁報名網址-本院教育訓練報名系統 (院內網址<http://elearn.nhri.org.tw/>)
開課日期公告於最新消息。



: 僅供院內系統連結

LAC Workshop Handout

帳號:
密碼:

編號	課程名稱	時數	開課頻率	課程內容	報名條件	授課對象	收費標準 (元)	證書	資料下載
					院內人員				院內人員
1	NHRI 實驗動物照護及使用計畫 & 動物保護與動物福祉 (竹南場/台南視訊連線)	1.5	每月	1.動物保護法介紹 2.動物疼痛評估 3.課後測驗 (約10分鐘)	開放參加	使用實驗動物中心者必上課程	0	無	中文 English
2	動物實驗計畫書撰寫說明 (竹南場/台南視訊連線)	1.5	每半年4.10月	學科講解, 說明撰寫動物實驗之科學論證技能與3R精神		撰寫"動物實驗計畫書"者必上課程			
3	IVIS Spectrum 3D活體影像系統應用說明(竹南場/台南視訊連線)	2	每季1.4.7.10月	學科講解, 活體影像系統之應用原理說明		使用IVIS Spectrum 3D活體影像系統者必上課程			

English

Outline



Animal Care and Use Program

Animal Experiments & Occupational Health

Preparation Prior to Using Laboratory Animals

Animal Protection Act & Animal Welfare

Animal Health and Pain Evaluation



國家衛生研究院
National Health Research Institutes



實驗動物照護及使用計畫 Animal Care and Use Program

實驗動物照護及使用委員會

Institutional Animal Care and Use Committee (IACUC)

**Things you have to
know when using
laboratory animals at
NHRI...**



Responsibility of IACUC

實驗動物照護及使用委員會
Institutional Animal Care and Use Committee (IACUC)



To assess and oversee the institutional
ACUP and facilities

To implant
policies

To review and
monitor
animal use
protocol (AUP)

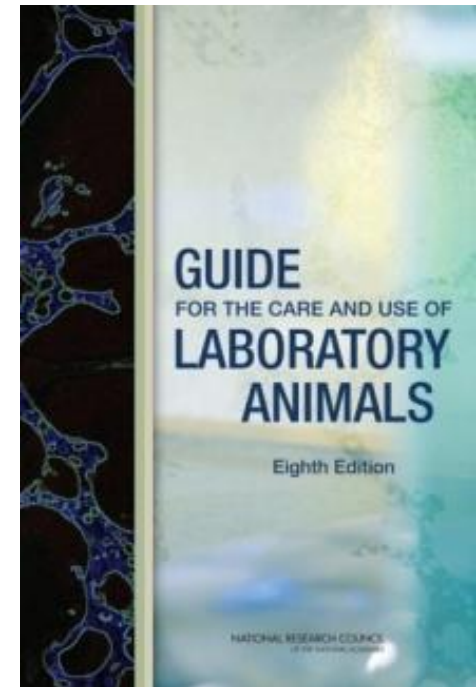
To inspect
animal
facilities
semiannually

Regulatory
compliance

Compliance with
the 3R principle

Compliance with
the International
Guide

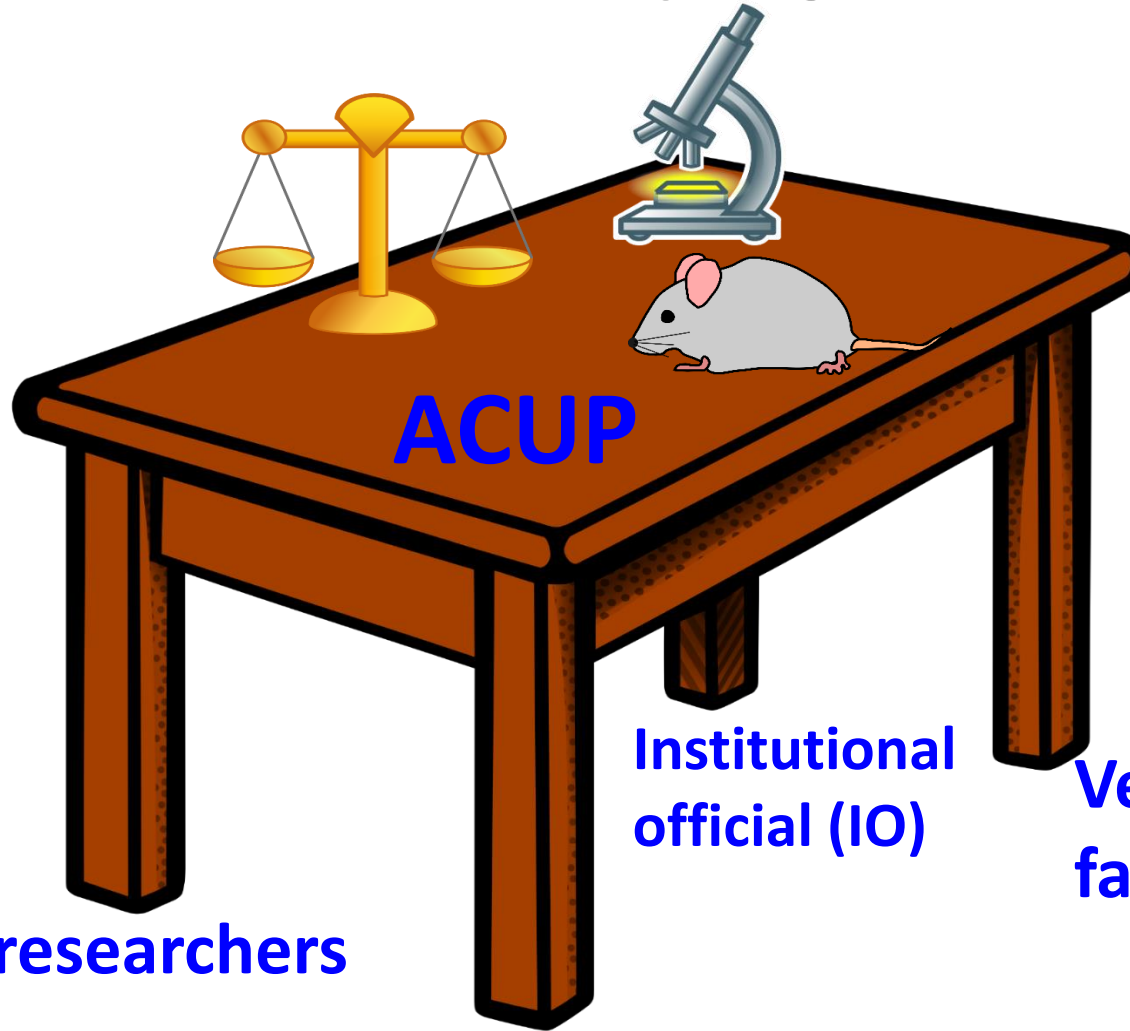
In 2015 and 2018, NHRI animal facilities get **AAALAC international full-accreditation**, indicating that the care and use of laboratory animals at NHRI are fulfilled with the standard of *the Guide For the Care and Use of Laboratory animals!*





- Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International)
 - is a voluntary accrediting organization that enhances the quality of research, testing and education by promoting humane and responsible research animal care and use through provision of advice and independent assessments to participating institutions and accreditation of those that meet or exceed applicable standards.

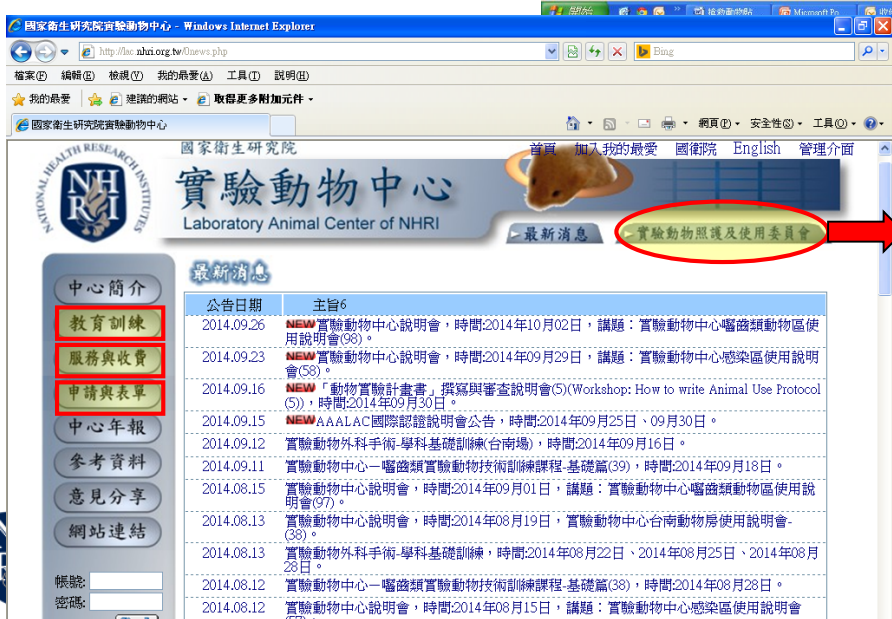
Personnel involved in the institutional animal care and use program (ACUP)



**Your participation and collaboration
are very important!**



LAC Website <http://lac.nhri.org.tw/>



NHRI-IACUC Website

<http://iac.nhri.org.tw/iacuc.php>

IACUC
Policies

沿革 - Windows Internet Explorer

http://iac.nhri.org.tw/iacuc.php

檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)

★ 我的最愛 ☆ 建議的網站 取得更多附加元件

沿革

實驗動物照護及使用委員會
Institutional Animal Care and Use Committee

動物中心 加到

沿革

我國動物保護法於1998年11月4日公布實施，為落實動物保護法的精神，2001年7月13日公告「動物實驗管理小組設置辦法」。依此辦法國衛院分別於7月7日通過「國家衛生研究院動物實驗管理小組設置要點」及2002年11月21日家衛生研究院動物實驗管理施行細則」。

依農委會公告之「動物實驗管理小組設置辦法」第二條規定：進行動物之機構，應組成動物實驗管理小組；相關人員三至十五人組成，其中應包括經中央主管機關指定動物實驗管理訓練合格之專業人員。第四條規定：利用科學實驗者，其需採用之實驗動物種類、品種、數量及實驗設計應先申請，組審議核可，始得進行。

國衛院為落實動物保護法相關規定與精神，於2002年7月正式成立「動物

已完成，但是網頁發生錯誤。

開始 Microsoft PowerPoint ... 國家衛生研究院資 ... 沿革 - Windows Inter ... CH 150% 上午 11:59

國家衛生研究院實驗動物照護及使用委員會

IACUC政策

(IACUC Policy)

(僅供院內系統連結)

1. 3R推廣

■違反動物福祉事件舉報(10/17/2017更新)

●違反動物福祉事件電話舉報紀錄單(10/17/2017更新)

2. 動物試驗與職業安全

●動物實驗人員風險與健康評估表(Personnel Risk Assessment/Health Evaluation Form for Conducting Animal Experiments)

3. 動物外科手術注意事項

■實驗動物麻醉指引

■實驗動物手術與術後照顧指引

■動物麻醉、手術與術後照顧(Anesthesia, Surgery and Postoperative Care of Animals)(09/28/2017更新)

●動物術前計畫書(pre-surgical plan)(05/25/2018更新)

●動物手術及術後監測紀錄表(Post-surgical monitoring records) (10/17/2017更新)

4. 動物實驗計畫書通過後之執行狀況追蹤與記錄(post approval monitoring, PAM)

■IACUC-動物實驗計畫書核定後應用之追蹤(PAM) Animal Use Protocol Post-Approval Monitoring (PAM)(06/30/2014更新)

■LAC-動物實驗計畫書核定後應用之監控(PAM) Animal Use Protocol Post-Approval Monitoring (PAM)(06/30/2014更新)

●Post-Approval Monitoring Checklist (06/30/2014更新)

●動物科學應用機構內部查核表(06/30/2014更新)

●動物實驗室訪問表(06/30/2014更新)

5. 動物試驗場所(含實驗室)之管理

■動物試驗場所(含實驗室)之管理原則(10/17/2017更新)

●實驗動物留置實驗室申請表 - 衛星設施(Satellite facility) (10/17/2017更新)

●動物攜至實驗室操作申請表(10/17/2017更新)

●實驗室動物照護表(10/17/2017更新)

■設備儀器使用規範(11/15/2017更新)

6. 實驗動物中心災害應變計畫(disaster plan)與動物搶救策略

- 災害應變計畫(Disaster and Contingency Plan for Care of Laboratory Animals)(07/17/2017更新)
- 動物搶救同意書(06/30/2014更新)

7. 實驗動物的繁殖規範

- 實驗動物繁殖計畫表(06/30/2014更新)
- 實驗動物繁殖紀錄表 (06/30/2014更新)

8. 動物飼養密度規範

- 動物飼養環境豐富化Animals Environmental Enrichment Program(05/22/2018更新)
- 動物飼養空間大小規範(09/28/2017更新)
- Performance standard(動物表現性能為飼養密度標準)常用評估項目(06/30/2014更新)

9. 動物操作人員的教育訓練計畫表

- 進行“動物實驗”前人員需接受的教育訓練(必須項目)(06/30/2014更新)
- 實驗動物操作人員資歷表(06/30/2014更新)
- 實驗室人員教育訓練紀錄表(06/30/2014更新)

10. 動物實驗注意事項

- PDX模式小鼠使用規範(10/12/2017更新)
- 非醫藥級試劑(Non-pharmaceutical grade reagents)於實驗動物的使用(10/12/2017更新)
 - Chloral hydrate 使用指引(06/11/2014更新)
 - 2, 2, 2-Tribromoethanol (TBE, AvertinR) 使用指引(10/02/2017更新)
 - Pentobarbital Sodium 使用指引(06/11/2014更新)
- 動物疼痛與痛苦之評估與處理(Assessment and Treatment of Animal Pain and Distress) (12/14/2011更新)
 - 動物臨床觀察評分表(Animal Welfare Monitoring Sheet)(12/14/2011更新)
- 啮齒類動物之CO2安樂死方法(11/17/2014更新)
- SOP-動物之標示(包含剪尾剪趾等規範)(04/17/2015更新)
- SOP-動物安樂死(06/23/2015更新)
- SOP-動物之運輸(包含動物包裝與院外運輸流程)(09/22/2014更新)
- 實驗動物採血規範(03/23/2018更新)
- SOP-小鼠眼窩採血(03/23/2018更新)

Documents to be sent to IACUC

- Personnel Qualification Form (in e-Protocol System)
- Personnel Risk Assessment/Health Evaluation Form
- Animal breeding record (Annually)
- Animal post-surgical monitoring record (Annually)

**What training courses
should you take when
you want to use
animals at NHRI?**



Training program for researchers

- Mandatory training courses:
 - NHRI Animal Care and Use Program
 - Animal Protection Act and Animal Welfare
 - The preparation prior to animal experiments
 - The orientation of animal facility
 - Occupational health and safety
 - Animal health and pain evaluation
 - Handling and restraint skills for animals
 - The euthanasia of animals
 - The disposal of animal carcass

Training program for researchers

- Additional optional training courses depending on Animal Use and Facility Access Needs:
 - ABSL-2 infectious animal holding area orientation
 - Rabbit/Canine holding area orientation
 - Administration and Sampling Techniques
 - Mouse Necropsy and Tissues Sampling Techniques
 - Basic Training in Lab Animal Surgery
 - Anesthesia and Analgesia for animals

Outline



Animal Care and Use Program

Animal Experiments & Occupational Health

Preparation Prior to Using Laboratory Animals

Animal Protection Act & Animal Welfare

Animal Health and Pain Evaluation

Animal Experiments & Occupational Health

- You have to ...
 - Complete Personnel Risk Assessment/Health Evaluation Form
 - Understand the risk of conducting animal experiments
 - Possess good animal handling and sharp instrument handling skills.
 - Take comprehensive preventive measures

The risks of conducting animal experiments

Species	Injury	Allergy	Zoonotic diseases
Mice 小鼠	<ul style="list-style-type: none"> Animal bite Needle stab 	<ul style="list-style-type: none"> Exposure to animal furs, urine or dander Dust 	Hantavirus 漢他 Lymphocytic choriomeningitis virus (LCMV) 淋巴球性脈絡 叢腦膜炎病毒 Leptospirosis 鉤端螺旋體病 Salmonella spp. Microsporidiosis (<i>Microsporum spp.</i>) 微孢子蟲 Ringworm (Trichophyton spp.) Dwarf tapeworm (Hymenolepsis nana) Yersiniosis 鼠疫桿菌
Rats 大鼠	<ul style="list-style-type: none"> Animal bite /Scratch Needle stab 	<ul style="list-style-type: none"> Exposure to animal furs, urine or dander Dust 	Hantavirus Leptospirosis Salmonella spp. Rat-bite Fever (<i>Streptobacillus moniliformis</i> and <i>Spirillum minus</i>) Sporotrichosis (<i>Sporothrix schenckii</i>) Yersiniosis Dwarf tapeworm (Hymenolepsis nana)

The risks of conducting animal experiments

Species	Injury	Allergy	Zoonotic diseases
Hamsters 倉鼠	<ul style="list-style-type: none"> Animal bite Needle stab 	<ul style="list-style-type: none"> Contact allergy Dust 	Lymphocytic choriomeningitis virus (LCMV) Leptospirosis Giardiasis Dwarf tapeworm (Hymenolepsis nana)
Guinea Pigs 天竺鼠	<ul style="list-style-type: none"> Scratch Needle stab 	<ul style="list-style-type: none"> Contact allergy Dust 	Lymphocytic choriomeningitis virus (LCMV)
Rabbits 兔子	<ul style="list-style-type: none"> Hind leg kick Animal bite Needle stab 	<ul style="list-style-type: none"> Exposure to animal furs, urine or dander Dust 	Tularemia (<i>Francisella tularensis</i>) 兔熱病 Leptospirosis Yersiniosis (<i>Yersinia pseudotuberculosis</i>) Microsporidiosis (<i>Microsporum spp.</i>) Ringworm (Trichophyton spp.) Q fever (<i>Coxiella burnetti</i>) Cryptosporidiosis 小隱孢子蟲

The risks of conducting animal experiments

Species	Injury	Allergy	Zoonotic diseases
Dogs 狗	<ul style="list-style-type: none"> Animal bite /Scratch Needle stab 	<ul style="list-style-type: none"> Exposure to animal furs, urine, dander or saliva 	Rabies virus Brucellosis (<i>Brucella canis</i>) Campylobacteriosis Leptospirosis Salmonella spp Microsporidiosis (<i>Microsporum spp.</i>) Ringworm(Trichophyton spp.) Cryptosporidiosis Giardiasis

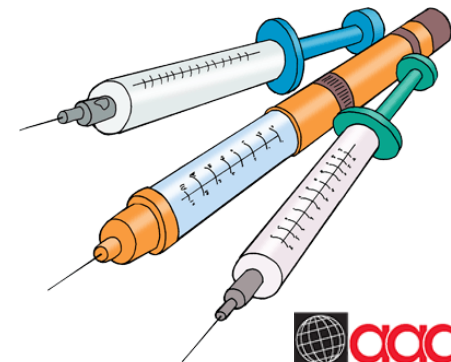
When you conduct infectious animal experiments

The risks from animals

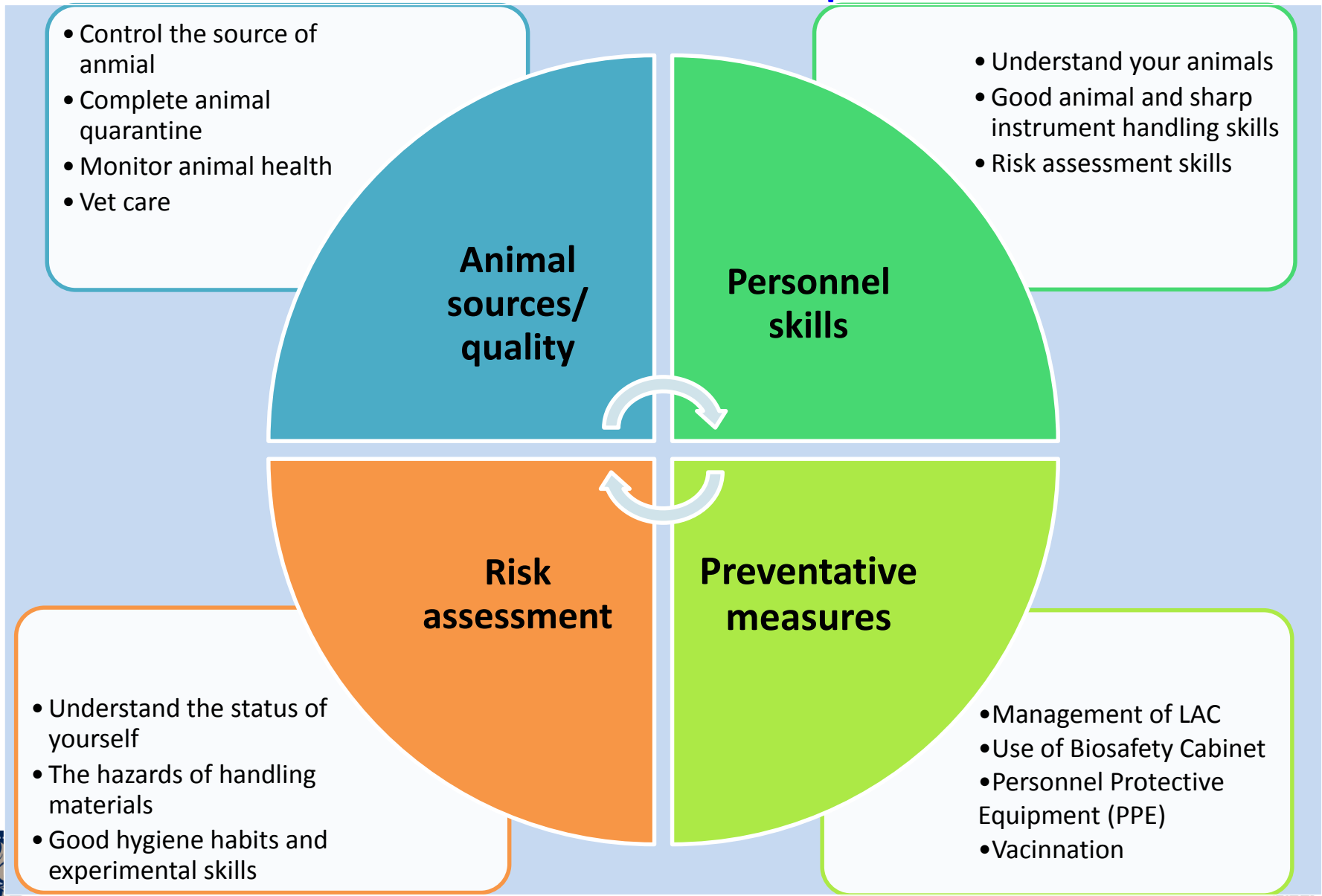
- Animal bite / scratch
- Dust
- Needle stab
- Allergy

The risks from pathogens

- Possess good microbe handling skills?
- Understand the characteristics of employed pathogens?
- The transmission route of pathogens?
 - Aerosol or blood?



How to prevent/decrease the risks of conduction animal experiments



Outline



Animal Care and Use Program

Animal Experiments & Occupational Health

Preparation Prior to Using Laboratory Animals

Animal Protection Act & Animal Welfare

Animal Health and Pain Evaluation

Using animals for scientific application at NHRI



Step 1

- Write and apply an Animal Use Protocol (AUP), and approved by IACUC

Step 2

- Complete all required training courses
- Be trained in proper animal skills
- Order or house animals

Step 3

- Apply for access to LAC

Step 4

- Conduct animal experiments

1st step : Write an Animal Use Protocol (AUP)

Who?

- PI or the authorized person who conduct the program is responsible for writing AUP, and PI must confirm all the contents and signed to be responsible.

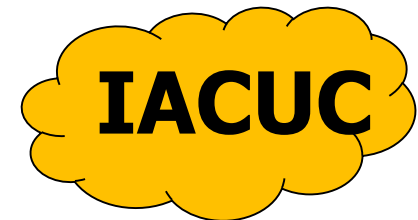
■ How?

- Login the e-Protocol System (From 2019/02/14) and applying for an AUP

<http://iacuc.nhri.org.tw:9000/>



The screenshot shows the login interface for the '國家衛生研究院-動物實驗計畫書管理系統' (National Health Research Institute - Animal Experiment Protocol Management System). The page has a dark blue header with the NHRI logo and the system name. Below the header, there are two input fields: 'User ID:' with a user icon and 'Password:' with a padlock icon. A red reminder text states 'Remind: User ID and Password are case sensitive!'. At the bottom, there are two buttons: '確定登錄' (Confirm Login) and '重新設定' (Reset).





1st step : Write an Animal Use Protocol (AUP)

Preparation prior to applying an AUP

- PI and personnel listed in the AUP need to create their accounts in the e-Protocol System first.
- All personnel listed in the AUP have to complete Personnel Qualification Form in the e-Protocol System.

■ Review process:

- Complete the AUP in the e-Protocol System and send to IACUC
- Deliver to IACUC members for reviewing.
- IACUC members reviewed→Questions and corrections→Approval
- Issued “Affidavit of Approval of Animal Use Protocol”

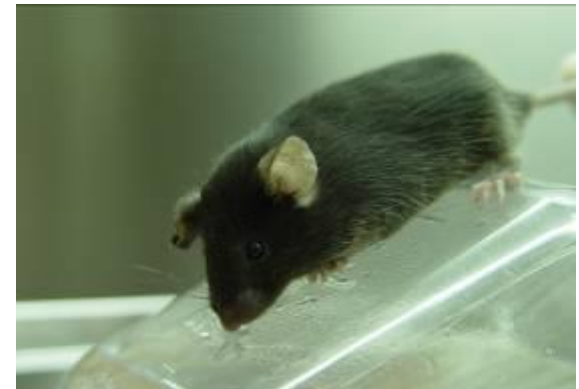
■ How long will it take?

- About 10-45 days.
- **MOST** grant applicants should confirm the consistency of the expiry date and the title in English and Chinese between grant and AUP.

2nd step : Complete all required training courses



- **Mandatory training courses:**
 - NHRI Animal Care and Use Program
 - Animal Protection Act and Animal Welfare
 - Animal facility orientation-Rodent area tour
- **Additional optional training courses depending on Animal Use and Facility Access Needs:**
 - Canine holding area orientation.
 - Rabbit holding area orientation.
 - ABSL-2 infectious animal holding area orientation.





2nd step : Refine animal experimental skills

■ Animal Protection Act, Article 15:

- One shall avoid using live animals for scientific application; when it cannot be avoided, one shall do so with the least number of animals and in a way inflicting the least pain or harm.

■ Training Courses

- From Pls
- From LAC
- From other institutes (The Council of Agriculture, National Laboratory Animal Center...etc)
- Others

■ DVD

- Lab Animals Technical Training Course. DVD (available in NHRI Library)
- http://animal.coa.gov.tw/html/?main=13h&page=13_labaratory_a09

■ On-line Resources

- <http://www.ahwla.org.uk/>
- <http://www.nc3rs.org.uk/>

LAC training courses- free course



Application Requirements		Courses
Intramural	Extramural	
Open Courses	Animal Protection Act and animal welfare	
	Instructions for writing AUPs	
	Introduction of IVIS Spectrum 3D imaging system (lecture)	
	IVIS Spectrum 3D imaging system software training (lecture)	
	Introduction of rodent surgical techniques (lecture)	
Training courses depending on AUP and Facility Access Needs	Rodent area orientation (facility tour)	
	Canine holding area orientation (facility tour)	
	Rabbit holding area orientation (facility tour)	
	ABSL-2 infectious animal holding area orientation (facility tour)	
	IVIS Spectrum 3D imaging system use training (Practice)	



LAC training courses - charge

Courses
Rat: Handling and Restraint
Rat: Euthanasia and Inhalation Anesthetics
Rat: Administration and Sampling Techniques
Mouse: Handling and Restraint
Mouse: Euthanasia and Inhalation Anesthetics
Mouse: Administration and Sampling Techniques
Mouse Necropsy and Tissues Sampling Techniques
Basic Training in Lab Animal Surgery I, II, III
Customized Laboratory Animal Training Courses
Rabbit: Handling and Restraint
Rabbit: Administration and Sampling Techniques
Dog: Handling and Restraint
Dog: Administration and Sampling Techniques



2nd step : Animal ordering and housing

When to apply?

- After the animal use protocol has been approved.

■ How to apply?

- Investigators login to **LAC website** with personal account and password. Investigators may authorize individuals to order animals. Ordering online through LAC's Web-based animal ordering system "Animal Ordering and Request for Husbandry Services".

■ How long will it take for order lead time?

- Depending on different vendors. Average time: 14~21days.

■ Procedures of animal ordering and housing:

- Investigators Complete the online "Animal Ordering and Request for Husbandry Services" **LAC confirms those animals met the AUP.**
- LAC confirmed the order and e-mail to PI and subscriber.
- **Veterinarian should be consulted for information on the location and general availability of specific types of housing.**

■ Other considerations:

- **LAC takes charge of all animal ordering.**

3rd step : Apply for LAC Access



When to apply?

- Online application was done 14 days prior to animal experiment. (The access duration should not exceed the duration of the AUPs.)

■ How to apply?

- PI logs in to **LAC website** with personal account and password. Submit a request to from the " Access Request Form".

■ Applicants meet five prerequisites for obtaining LAC access:

- The applicants had been participated in the AUPs.
- Complete Orientation and training courses.
- Complete Personnel Qualification Form in eProtocol System.
- Complete Personnel Risk Assessment/Health Evaluation Form for Conducting Animal Experiments.
- Animals had been purchased or arrived.

■ Other considerations:

- Complete Personnel Qualification Form and research related animal technical skills was required to work with ABSL-2 infectious animals³⁵



3rd step : Apply for LAC Access



Other considerations:

- Completing **Personnel Qualification Form** and **research related animal technical skills** are required to work in the ABSL-2 infectious animal holding area, rabbit and canine holding area.

AUPs Amendment

Download and fill in “Amendment to Animal Use Protocol”

- Example 1 : Approved by IACUC chairmen, no further Protocol review needed.

- 3-1 Housing AND Experimentation Location. (In NHRI)
- 3-2 Sources of Funding
- 3-3 Attending personnel
- 3-4 List all animals to be used (Use same animal species, but to change the strains. If new GM animals were added, “Application Form for Recombinant DNA Research” should be attached.)
- 3-5 Using IVIS Image system
- 3-6 Anesthesia, Analgesia, Sedatives, Tranquilizers... etc.
(Approved by veterinarian.)
- 3-7 Euthanasia (Approved by veterinarian)

AUPs Amendment-continue

Example 2 : The ongoing AUPs extend less than six months, no further protocol review needed.

- Submit the first page of animal use protocol.
 - ☐ ≤ a 6-month extension without changes --- Previous Protocol No.: NHRI-IACUC-XXXXX
 - Signed by PI, Co-PI and endorsement.

Example 3 : Approved but non-executive AUPs to change the title and duration of the protocol, no further protocol review needed.

- Submit the first page of animal use protocol.
 - ☐ Only title and experimental duration are changed and the previous protocol is annulled. --- Previous Protocol No.: NHRI-IACUC-xxxxxx
 - Signed by PI, Co-PI and endorsement.
 - Submit AUPs e-files to iacuc@nhri.org.tw.
 - Submit original document of “Affidavit of Approval of Animal Use Protocol”

In addition to these 3 conditions,
all others are required to write a new AUP.

Outline



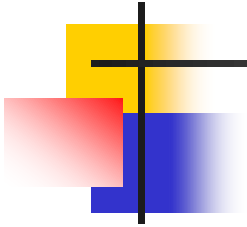
Animal Care and Use Program

Animal Experiments & Occupational Health

Preparation Prior to Using Laboratory Animals

Animal Protection Act & Animal Welfare

Animal Health and Pain Evaluation



**Animal
Protection
Act**

**The
principles of
the 3Rs**

**Animal
Health and
Pain
Evaluation**

**Reporting
Animal
Welfare
Concerns at
NHRI**

General
protection
of animals

動物保護法
Animal Protection Act

Live
vertebrate

Scientific
application

農業委員會（農委會）
Council of Agriculture (COA)

Laboratory
animals

實驗動物照護及使用委員會
Institutional Animal Care and Use Committee (IACUC)

The institution using animals for scientific application

Regulatory
compliance

Compliance with
the 3R principle

Compliance with
the International
Guide

Animal Protection Act

- Amended Date: 2018-12-26
- Chapter I General Provisions
 - Article 1
 - 1.1 This Act is hereby enacted out of respect for animal lives and for the purpose of animal protection.
 - 1.2 This Act governs activities to protect animals. However, other laws may prevail if they contain specific applicable stipulations.
 - Article 2
 - 2.1 The term “competent authority” in this Act refers to one of the following: **the Council of Agriculture** of the central government, the municipal government of a special municipality, or a city/county government.
 - 2.2 A municipal, city/county government (hereinafter “local government”) shall set up an animal protection agency dedicated to the enforcement of this Act.

- Article 3
 - 3.1 Definition of terms used in this Act:
 - 3.1.1 **Animal: a vertebrate**, such as a dog or a cat, reared and tended by human as a pet, an economic animal or a laboratory animal.
 - 3.1.2 Economic animal: an animal reared and tended for the production of fur, meat, milk, or for other economic purposes such as labor.
 - 3.1.3 **Laboratory animal: an animal reared and tended for scientific applications.**
 - 3.1.4 **Scientific application: a usage for the purpose of teaching, experiment; making biological products, trial agents, drugs, poison; or facilitating organ transplant.**
 -
 - 3.1.7 **Owner: the person having possession of, or actually tending, an animal.**

The Five Freedoms (5F) for animals

- **Freedom from hunger and thirst** by ready access to fresh water and diet to maintain health and vigor.
- **Freedom from discomfort** by providing an appropriate environment including shelter and a comfortable resting area.
- **Freedom from pain, injury, or disease** by prevention or rapid diagnosis and treatment.
- **Freedom to express normal behavior** by providing sufficient space, proper facilities, and company of the animal's own kind.
- **Freedom from fear and distress** by ensuring conditions and treatment which avoid mental suffering.

Chapter II General protection of animals

- Article 5
 - 5.1 An animal owner must be over 20 years of age. The statutory agent or legal guardian of a minor (anyone less than 20 years old) keeping or tending animals shall be the owner on behalf of the minor.
 - 5.2 Regarding animals tended under his care, an owner shall comply with the followings:
 - 5.2.1 Providing proper, clean and harmless food as well as adequate and clean water which should be available at all times.
 - 5.2.2 Providing a living environment that is safe, clean, well-ventilated, non-flooding with proper and adequate shelter, lighting and warmth.
 - 5.2.3 Providing necessary precaution against infectious animal diseases.
 - 5.2.4 Preventing the animal from harassment, abuse or injury.

Chapter II General protection of animals

- Article 5
 - 5.2.5 Providing adequate room for a caged pet to stretch and move about, while allowing sufficient out-of-cage activities.
 - 5.2.6 For a pet kept on a leash and collar, using a leash longer than its body length allowing it to stretch and move about, and a collar that is safe, comfortable, breathable and of proper elasticity; also giving the pet sufficient outdoor activities whenever appropriate.
 - 5.2.7 Must not tow the pet behind a car or motorcycle.
 - 5.2.8 Moving the pet to a safe location with a chance to escape from a place with potential hazards.
 - 5.2.9 Not confining a pet in an enclosed space for a long time; keeping the vent holes open to allow breathing.
 - 5.2.10 Providing other proper care.
 - 5.2.11 Other than neutering, a pet must not be subject to any non-essential or non-medical surgery.

Chapter II General protection of animals

- Article 5
 - 5.3 An owner must not abandon any animal under his care unless it has been accepted for custody or disposal by an animal shelter, or a refuge designated by the local competent authority.
- Article 6
 - 6.1 One must not harass, abuse or injure any animal.

The principles of the 3Rs

	Standard	Contemporary
Replacement	Methods which avoid or replace the use of animals	Accelerating the development and use of models and tools, based on the latest science and technologies, to address important scientific questions without the use of animals
Reduction	Methods which minimise the number of animals used per experiment	Appropriately designed and analysed animal experiments that are robust and reproducible, and truly add to the knowledge base
Refinement	Methods which minimise animal suffering and improve welfare	Advancing research into animal welfare by exploiting the latest <i>in vivo</i> technologies and by improving understanding of the impact of welfare on scientific outcomes

Chapter III Scientific Application of Animals



•Replacement
•Reduction
•Refinement

- Article 15

- 15.1 One shall avoid using live animals for scientific application; when it cannot be avoided, one shall do so with the least number of animals and in a way inflicting the least pain or harm.
- 15.2 The central competent authority may formulate regulations governing the source, application scope and management of lab animals based on the type of animals.



IACUC

- Article 16

- 16.1 The institution using animals for scientific application shall set up a panel for the care and use of lab animals for scientific application within the institution.

Chapter III Scientific Application of Animals

Pain, humane
endpoint, euthanasia

- Article 17

- 17.1 One shall examine the conditions of a lab animal immediately after a scientific application is completed. Animals whose quality of life has been compromised from losing limbs, organs or pain shall be put to death in the least painful way.
- 17.2 A lab animal must not be subject to additional use for scientific application before its physiological functions have fully recovered unless necessary for scientific purposes.

Rehabilitaion

NHRI animal health evaluation (body condition)

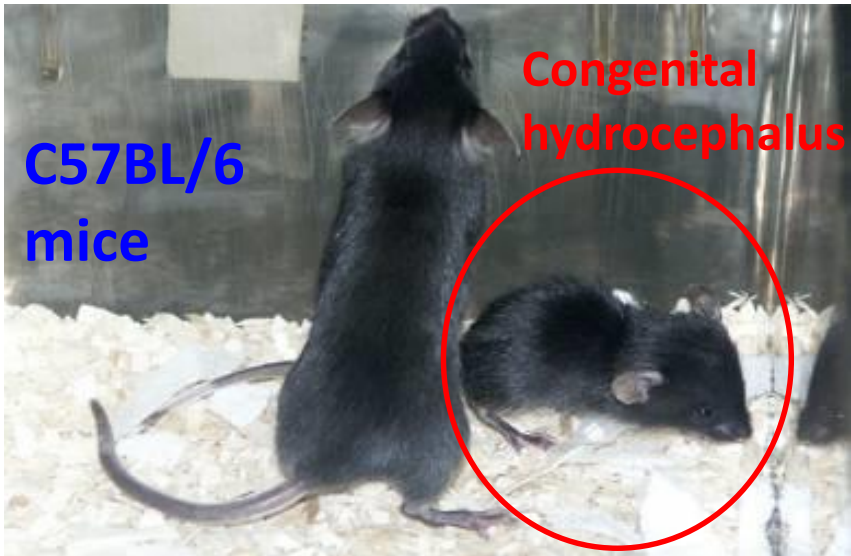
Body weight reduction is exhibited in the early stage but not easy to be observed when rodents suffer from pain!

ANIMAL IDENTIFICATION:	Score	Date Time	Date Time	Date Time	Date Time	Date Time
APPEARANCE						
Normal	0					
General lack of grooming	1					
Coat staring, ocular and nasal discharges	2					
Piloerection, hunched up	3					
FOOD AND WATER INTAKE						
Normal	0					
Uncertain: body weight ↓ <5%	1					
↓ intake: body weight ↓ 10-15%	2					
No food or water intake	3					
NATURAL BEHAVIOUR						
Normal	0					
Minor changes	1					
Less mobile and alert, isolated	2					
Vocalization, self-mutilation, restless or very still	3					
PROVOKED BEHAVIOUR						
Normal	0					
Minor depression or exaggerated response	1					
Moderate change in expected behaviour	2					
Reacts violently, or very weak and precomatose	3					
CLINICAL SIGNS						
Normal cardiac and respiratory rates, hydration	0					
Slight changes, slight dehydration	1					
C/R rates ↑ 30%, 10-20% dehydrated	2					
C/R rates ↑ 50% or very ↓, >20% dehydrated	3					
TOTAL	0-20					
Signature						
JUDGEMENT 0 – 4: Normal 5 – 9: Monitor carefully, consider analgesics 10 – 14: Suffering; provide relief, observe regularly. Seek second opinion from day-to-day care person and/ veterinary surgeon. Consider euthanasia. 15 – 20: Severe pain. Euthanasia.						

Healthy Animals



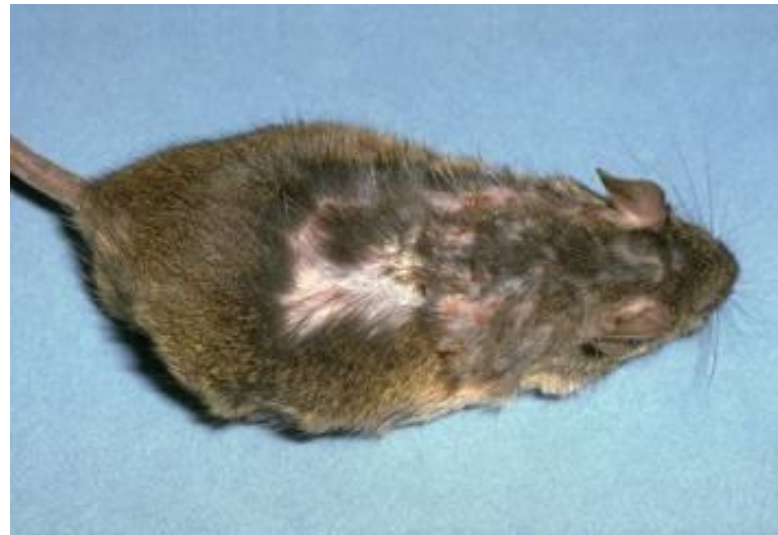
Sicked or Distressed Animals



Sicked or Distressed Animals



**Moribund
status!!**



Facial expression of pain in mice

Not present
0



Moderate
1



Severe
2



Not present
0



Moderate
1



Severe
2

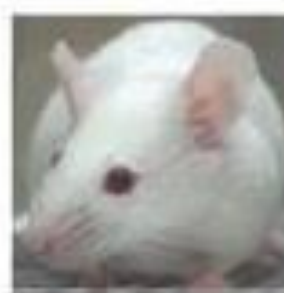


Orbital tightening

Ear position



Nose bulge



Whisker change



Cheek bulge

動物福祉事件之通報

Reporting Animal Welfare Concerns at NHRI

- 本院任何人員皆可具名或匿名通報任何有關動物應用於科學研究，飼養或其他“動物福祉”的問題：

- http://lac.nhri.org.tw/7_report.php
- iacuc@nhri.org.tw
- NHRI的3R意見信箱 (各動物設施入口)
- 037-246-166分機32908, 32911

- 通報中請描述發現時間、地點、事件內容，以利調查。
- 本院IACUC依據動物保護法將盡速進行事件調查，並公布調查及處理結果於院內之IACUC網頁或告知具名之通報人員。
- 通報者的資訊會被完全保密，且過程中或調查後不會遭受任何歧視或騷擾。

- It is your responsibility to report concern about use of animals in research and husbandry to:

- http://lac.nhri.org.tw/7_report.php
- iacuc@nhri.org.tw
- [NHRI 3R Box \(By the entrance of each animal facility\)](#)
- [037-246-166 ext. 32908, 32911](#)

- Reports shall contain the following details: date, time, facility location/room, animal species, description of what were observed or incidents.
- Report will be investigated promptly by the IACUC, in compliance with the Animal Protection Act.
- You may report so anonymously and without fear of reprisal.

More information are on the LAC Website

<http://lac.nhri.org.tw/>



國家衛生研究院

實驗動物中心

Laboratory Animal Center of NHRI



[首頁](#) [加入我的最愛](#) [國衛院](#) [English](#) [管理介面](#)

► 最新消息

► 實驗動物照護及使用委員會

► 台灣斑馬魚核心設施

最新消息

中心簡介

教育訓練

服務與收費

申請與表單

中心年報

參考資料

常見問題

意見分享

動物福祉舉報

網站連結

公告日期	主旨
2019.03.26	NEW 實驗動物中心108年4月份教育訓練公告
2019.02.25	實驗動物中心108年3月份教育訓練公告
2019.02.20	轉知-「國家衛生研究院-動物實驗計畫書管理系統」啟用公告
2019.01.29	實驗動物中心108年2月份教育訓練公告
2019.01.03	實驗動物中心108年1月份教育訓練公告(加開感染動物飼養區使用說明課程)
2019.01.03	實驗動物中心108年01月份教育訓練公告。
2018.12.07	實驗動物中心107年12月份教育訓練公告(加開感染動物飼養區使用說明課程)。
2018.11.27	實驗動物中心107年12月份教育訓練公告。
2018.11.20	演講公告-講題：基因改造小鼠的繁殖(Breeding strategy for genetically modified mice)，講者：臺大醫學院實驗動物中心 張家宜 獸醫師。
2018.10.25	實驗動物中心107年11月份教育訓練公告。
2018.09.12	實驗動物中心107年10月份教育訓練公告。
2018.08.20	實驗動物中心107年09月份教育訓練公告。
2018.06.20	實驗動物中心107年07~08月份教育訓練公告。
2018.05.22	實驗動物中心107年06月份教育訓練公告。
2018.04.30	轉知-中華實驗動物學會教育訓練課程。
2018.04.25	實驗動物中心107年05月份教育訓練公告。
2018.03.21	實驗動物中心107年04月份教育訓練公告。
2018.02.08	實驗動物中心107年03月份教育訓練公告。
2018.01.23	實驗動物中心107年02月份教育訓練公告。
2018.01.02	實驗動物中心107年01月份教育訓練公告。

帳號:

密碼:

登入

實驗動物中心

Laboratory Animal Center of NHRI



▶ 最新消息

▶ 實驗動物照護及使用委員會

▶ 台灣斑馬魚核心設施

Reporting Animal Welfare

Concerns at NHRI

違反動物福祉事件舉報

本院實驗動物照護及使用委員會（IACUC）為依動物保護法第十六條所成立之機構動物科學應用監督單位，任何人員觀察到本院動物飼育人員、獸醫師、研究人員或學生等，對實驗動物進行非本院IACUC審核通過之操作或有危害動物福祉之行為，得匿名舉發並通報本院IACUC或本院實驗動物中心（LAC），本院IACUC進行事件調查後，得公布調查結果及處理報告。

舉報內容將會同時寄送至下列信箱內：

1. IACUC召集人個人信箱：ctchen@nhri.org.tw
2. IACUC信箱：iacuc@nhri.org.tw
3. LAC信箱：lac@nhri.org.tw

舉報人姓名 (Name)	<input type="text" value="可匿名"/> <p>1. 舉報人可檢具個人真實姓名及聯絡方式，其所提供之個人資料將會保密。 2. 舉報人得匿名舉報，其不會影響事件調查之進行。</p>
您的信箱 (E-mail)	<input type="text" value="可不提供"/>
聯絡電話 (Tel.)	<input type="text" value="可不提供"/>
*發生日期 (Date of occurrence)	<input type="text"/>
*發生地點 (Place of occurrence)	<input type="text"/>
*舉報事件說明 (Report content)	<p>請詳述事件相關人士與發生經過。</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>

中心簡介

教育訓練

服務與收費

申請與表單

中心年報

參考資料

常見問題

意見分享

動物福祉舉報

網站連結

帳號:
密碼:



動物實驗技術參考文件

Animal Experiment Technical References

中心簡介

教育訓練

服務與收費

申請與表單

中心年報

參考資料

常見問題

意見分享

動物福祉舉報

網站連結

成立歷史

人員簡介

01. 實驗動物麻醉指引 (僅供院內系統連結)

02. 實驗動物手術與術後照顧指引 (僅供院內系統連結)

03. 啮齒類動物之CO2安樂死方法 (僅供院內系統連結)

04. —

05. Newcastle Consensus Meeting on Carbon Dioxide Euthanasia of Laboratory Animals.(2006) (僅供院內系統連結)

06. Isoflurane氣體麻醉機 (Isoflurane anesthesia machine) 操作及注意事項

07. 大小鼠管餵(Oral Gavage) · 影片1: NC3Rs · 影片2: 動物保護資訊網

08. 大小鼠肌肉注射(Intramuscular) · 影片1: NC3Rs · 影片2: 動物保護資訊網

09. 大小鼠腹腔注射(Intraperitoneal) · 影片1: NC3Rs · 影片2: 動物保護資訊網

10. 大小鼠靜脈注射(Intravenous) · 影片1: NC3Rs · 影片2: 動物保護資訊網

11. 大小鼠皮下注射(Subcutaneous) · 影片1: NC3Rs · 影片2: 動物保護資訊網

12. 大小鼠心臟採血 · 影片1: 動物保護資訊網

13. 小鼠尾動脈採血 (僅供院內系統連結)

14. 大鼠尾靜脈採血 (僅供院內系統連結)

15. 小鼠臉頰採血 · 影片1: MEDIpoin, Inc.

16. 小鼠解剖採樣及切片組織處理 (僅供院內系統連結)

17. Chloral hydrate 使用指引 (僅供院內系統連結)

18. 2, 2, 2-Tribromoethanol (TBE, Avertin®) 使用指引(僅供院內系統連結)

帳號:

密碼:

登入



Thank you for your participation!

Know who to contact for questions about:

Animal Care and Use Protocol Forms- Institutional Animal Care and Use Committee (IACUC) :

1. E-mail address: iacuc@nhri.org.tw
2. IACUC executive secretary : Yalin Lin- Ext. 32911

■ **Animal ordering or husbandry:**

1. E-mail address: lac@nhri.org.tw
2. website: <http://lac.nhri.org.tw/> - Sharing of opinions
3. LAC office: ext. 32908~09 、 32911~12 、 32914~15
4. Animal ordering : ext. 32919
5. Vet services : ext. 32908, 32911, 32915

**IF you have any questions or concerns related to
“animal welfare” , please inform LAC or IACUC
anonymously.**