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Welcome Address



Dear AMMRA members,

It is a great pleasure for me to welcome all of you to the 5th AMMRA meeting in Taipei. As discussed in the previous meeting held in Kumamoto, we are going to enter the new phase of AMMRA. I want to discuss several issues such as membership, obligation, function and goal to start the new AMMRA. Looking forward to seeing you soon.

A handwritten signature in black ink that reads "Kenichi Yamamura". The signature is written in a cursive, flowing style.

Kenichi Yamamura

Chair, Asian Mouse Mutagenesis Resource Association (AMMRA)



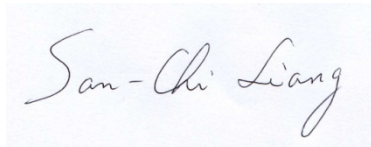
Welcome Address



Dear friends and Colleagues,

As one of the founding members, it is of great delight and honor for the National Laboratory Animal Center (NLAC) to be the organizer of the 5th AMMRA Annual Meeting in 2010. Since its foundation in 2000, AMMRA has been growing steadily and continuously, and the 4 annual gatherings, that evidently manifested greater magnitude in education, research and resources one after another; I am certain that the annual meeting this year will be as fruitful and unforgettable to all of you.

In particular, we are very excited and thrilled to incorporate the 4th AFLAS Congress Meeting and the 11th CSLAS Annual Meeting with 5th AMMRA Meeting, and this 3-in-1 event indisputably will present a journey for abundance and refreshment. Hence, we appreciate the participation and support from all of you, and are sincerely looking forward to seeing everyone at the International Convention Center in Taipei, Taiwan in November 2010!



San-Chi Simon Liang

Director General, National Laboratory Animal Center (NLAC), Taiwan





AMMRA Current Members

Founding Members

Bio-Evaluation Center of Korean Research Institute of Bioscience and Biotechnology,

Chungbuk

Biological Resource Center, Singapore

Center for Animal Resources and Development of Kumamoto University, Kumamoto

Institute of Laboratory Animal Sciences of Peking Union Medical College, Beijing

National Laboratory Animal Center, Taipei

National Resource Center for Mutant Mice of Nanjing University, Nanjing

Peking University-BLARC, Beijing

Riken BioResource Center, Tsukuba

Shanghai Institute of Biological Sciences of Chinese Academy of Sciences, Shanghai

Shanghai Research Center for Model Organisms, Shanghai

New Joined Members

Institute of Developmental Biology and Molecular Medicine of Fudan University,

Shanghai

Laboratory of Cardiovascular Genomics of Ewha Woman's University, Seoul

National Institute of Food and Drug Safety Evaluation, Seoul

Seoul National University, Seoul

Sookmyung Women's University, Seoul

Yonsei University, Seoul



Taskforce Committee

Chairperson *Dr. Kenichi YAMAMURA*
Center for Animal Resources and Development (CARD) ,
Kumamoto University; Japan

Members *Dr. Xiang GAO*
Model Animal Research Center, Nanjing University, China

Dr. Hyoung-Chin KIM
Korea Research Institute of Bioscience and Biotechnology,
Korea

Dr. Je Kyung SEONG
Seoul National University; Korea

Dr. Chi-Kuang Leo WANG
National Laboratory Animal Center, NARL, Taiwan



5th AMMRA Council Meeting

Monday, November 8, 2010

14:00-17:00	AMMRA Council Meeting (Invited Only)	Far Eastern Plaza Hotel
14:00-14:20	Opening Remark	
14:20-15:20	AMMRA related issues	

Moderator: Kenichi YAMAMURA

- (1) **Policy**
- (2) **CHARTER: Definition, Mission and Goals**
- (3) **Other issues that is not covered by the CHARTER**
 - 1) **Head office**
 - 2) **Website**
 - 3) **Issues in regards to the membership: enrollment, annual fee, obligation etc.**
- (4) **Integration of the AMMRA into the IKMC**

15:20-15:40 Coffee Break

15:40-16:40 Reports from Resource Center

Moderator: Chi-Kuang Leo WANG

- (1) **The current status of aiding researchers to produce gene-manipulated animals in the Genome Information Research Center, Osaka University**
Masaru OKABE
- (2) **Current status of mouse bank in CARD at Kumamoto University.**
Naomi NAKAGATA
- (3) **Toward the development of new epistatic mouse model resources with the next-generation sequencers.**
Yoichi GONDO
- (4) **The current status of mouse resources at RIKEN BioResource Center in 2010**
Atsushi YOSHIKI

(5) Taiwan Mouse Clinic—the current status.

Jeffrey J.Y.YEN

(6) The Transgenic Mouse Models Core of NRPGM

Shu-Wha LIN

(7) Rodent Model Resource Center – The rodent strain resource service in Taiwan

Chi-Kuang Leo WANG

16:40-17:00 Discussion

Moderator: Kenichi YAMAMURA

17:30-19:30 AMMRA Welcome Dinner (Invited Only)

Far Eastern Plaza Hotel

Abstracts

The current status of aiding researchers to produce gene-manipulated animals in the Genome Information Research Center, Osaka University

Masaru Okabe

Research Institute for Microbial Diseases, Osaka University, Japan

We are functioning as a core facility to aid researchers in producing gene-manipulated animals in Osaka University. We have been involved in about 200 cases of producing gene knockout mouse lines and over 400 cases of producing transgenic mice in the past decade. One of our characteristic procedures is to use our "green" ES cells. In so doing, if the chimera is infertile, we can take out the testis and examine whether or not there is any green fluorescent area in the seminiferous tubule. If we find such an area, we recover the germ line cells from that fluorescent green part and perform ICSI or ROSNI to obtain pups. We have used this procedure successfully to establish a few lines of knockout mice, saving us from having to repeat the experiment from scratch.



Current status of mouse bank in CARD at Kumamoto University

Naomi Nakagata

Center for Animal Resources and Development, Kumamoto University, 2-2-1 Honjo,
Kumamoto 860-0811, Japan

In CARD at Kumamoto University, our embryo/sperm bank has been managed for the maintenance of mouse strains as genetic resources since 1998. Our essential services are: 1) Collection: We have collected over 1500 mouse strains, including mutant and genetically engineered mice. 2) Cryopreservation: We generally produce embryos from these mouse strains using in vitro fertilization. Spermatozoa and over 300 two-cell embryos for each strain were cryopreserved. 3) Database: Information regarding 1,288 strains that we have cryopreserved is available as an online database in CARD R-BASE (<http://cardb.cc.kumamoto-u.ac.jp/transgenic/index.jsp> [<http://cardb.cc.kumamoto-u.ac.jp/transgenic/index.jsp>](http://cardb.cc.kumamoto-u.ac.jp/transgenic/index.jsp)). This information can be also searched for in IMSR (International Mouse Strain Resource, <http://www.informatics.jax.org/imsr/index.jsp> [<http://www.informatics.jax.org/imsr/index.jsp>](http://www.informatics.jax.org/imsr/index.jsp)). 4) Quality control: The quality of cryopreserved embryos is tested by the development of embryos to normal offspring after embryo transfer, and subsequent microbial monitoring. 5) Supply: These cryopreserved embryos or populations derived from cryopreserved embryos are supplied to the scientific community. We have supplied 429 strains worldwide.



Toward the development of new epistatic mouse model resources with the next-generation sequencers.

Yoichi Gondo

Team Leader, Mutagenesis and Genomics Team, RIKEN BioResource Center, JAPAN.

We have established the RIKEN ENU Mutant Mouse Library¹ and have made it open to research community since 2002². The RIKEN Library encompasses $\sim 3 \times 10^7$ point mutations randomly in the 10,000 G1 mice³ and has been providing allelic series of point mutations of ~ 10 independent strains per any target gene based on users' requests⁴. Many users have been using the RIKEN ENU Mutant Mouse Library as a new reverse genetic resource, namely, a next-generation gene targeting system⁵.

Users conducted backcrosses more than 6 generations to make the congenic strain of the discovered mutations in their target gene and already established various human disease models; *e.g.*, mental illnesses⁶, schizophrenia⁷, pharmacogenetical⁸ and developmental malformation⁹ models.

At present, it is very quick (~ 6 months) to establish allelic series of mutant strains but takes more than 2 years to obtain the congenic strains before starting the phenotype analyses. During the time course of the backcrosses, very useful modifiers and multigenic effectors are intentionally discarded in vain. Human diseases are mostly polygenic more or less; thus, it is crucial to establish mutant model mice exhibiting epistatic interactions. The International knockout mouse consortium (IKMC) has been establishing model mice of monogenic traits by conventional gene targeting technologies. ENU mutagenesis with Mutant Mouse Library should be an effective tool to provide epistatic model mice, since each G1 mice contains $\sim 3,000$ point mutations¹⁰.

In order to fully utilize the RIKEN Mutant Mouse Library, we have started to reveal all the coding mutations in each G1 mouse genome by the next-generation sequencers with the whole-mouse-exome target sequencing. The first trial using Illumina/SOLiD with Agilent SureSelect Target Enrichment System discovered 67 ENU-induced mutations in one G1 genome by targeting 50-Mb whole mouse exome. Any modifiers and/or multigenic effectors, if any in the G1 genome, are likely to be in the discovered 67 mutations because they are coding mutations. Even if such epistatic interac-

tions are due to non-coding mutations, then the genomewide 67 mutations should give rise to the markers for the quick QTL mapping. We are now accepting trial users to establish epistatic mouse models with respect to the core mutation in their target gene. This new strategy to reveal epistatic interaction in the mouse genome as a novel bioresource for the human disease modeling will also be presented at the AFLAS¹¹ in details.

1. Sakuraba et al. *Biochem Biophys Res Commun* **336**: 609-616, 2005.
2. URL; <http://www.brc.riken.go.jp/lab/mutants/>
3. Gondo et al., *Exp Anim* **59**: 537-548, 2010.
4. Gondo et al., *BMB Rep* **42**: 315-323, 2009.
5. Gondo, *Nature Rev Genet* **9**: 803-810, 2008.
6. Clapcote et al., *Neuron* **54**: 387-402, 2007.
7. Labrie et al., *Hum Mol Genet* **18**: 3227-3243, 2009
8. Erickson et al., *Biochem Biophys Res Commun* **370**: 285-288, 2008.
9. Masuya et al., *Genomics* **89**: 207-214, 2007.
10. Gondo, *J. Genet. Genomics* **37**: 559-572, 2010.
11. Makino et al., *The 4th AFLAS Congress Meeting*, Poster No. B16.



The current status of mouse resources at RIKEN BioResource Center in 2010

Atsushi Yoshiki

Experimental Animal Division, RIKEN BioResource Center, Tsukuba, Japan

yoshiki@brc.riken.jp, <http://www.brc.riken.jp/lab/animal/en>

RIKEN BioResource Center (BRC) has collected, preserved, conducted quality control of and distributed mouse resources since 2002 as the core facility of the National BioResource Project by the MEXT, Japan. Our mouse resources include over 5,000 strains, such as fluorescent reporters, Cre/Flp-drivers, conditional floxed/flrtd mice, TET mice which contain a tetracycline-regulated switch on/off system for the gene expression, and phenotype- and gene-driven ENU-induced mutant mice modeling human diseases. In collaboration with our Cell Bank we have collected and made available to scientific community gene-trap knockout resources as embryonic stem cell clones generated by using a novel poly-A-trap strategy, UPATrap. We have cleaned up all the deposited mice free from pathogens by cesarean rederivation or embryo transfer. Genetic modifications and backgrounds are examined by our rigorous quality control programs. We have distributed since 2002 over 15,400 mouse resources of the high quality to 732 organizations around the world. Our division closely collaborates with the Japan Mouse Clinic at RIKEN BRC, a comprehensive mouse phenotyping platform which can generate standardized phenotypic data for our mouse resources. The RIKEN BRC would like to contribute in the promotion of life sciences in Asia with the advanced mouse resources of the highest quality.





Taiwan Mouse Clinic—the current status

Jeffrey J.Y. Yen, Yen-Hui Chen, Ya-Wen Hsaio

Taiwan Mouse Clinic, NRPGM, and IBMS, AS, Taipei, Taiwan

Since May 2008, we have established a comprehensive mouse phenotyping core facility in Taipei, called Taiwan Mouse Clinic, to promote local biomedical researches using the mouse as model by the funding through the National Research Program on Genomic Medicine (NRPGM), NSC, Taiwan. The key component of this project is the establishment of the Mouse Hotel which honors the health certificates from all mouse vivaria and only requests a minimum essential specific pathogen list and greatly reduces the turn-around time of animal trafficking within mouse clinic. All animals in hotel are all-in and all-out and are handled as if in P2 vivarium, and both animals and equipments in phenotyping laboratories are monitored for pathogen contamination routinely. In the past one and half year there are more than 90 laboratories all over Taiwan requested our services and the regular services have grown up to 3000 items per month and have completed above 60,000 cases.





The Transgenic Mouse Models Core of NRPGM

Shu-Wha Lin

College of Medicine Taiwan National University, Department of Clinical Laboratory Sciences and Medical Biotechnology, Taipei, Taiwan

Mouse is one of the most important tools in dissecting human gene functions. The applications of mouse embryonic stem (ES) cell technology by thousands of laboratories over the last 20 years have made huge progress in this field. Prof. Shu-Wha Lin of the College of Medicine's Department of Clinical Laboratory Sciences and Medical Biotechnology and her research team started using gene knockout mice to conduct research into gene functions in 1995. The team ultimately spawned a special research team dedicated to animal models for human diseases. Prof. Lin also began working with the Center for Genomic Medicine at National Taiwan University on the planning and establishment of the Gene Knockout Mouse Core Laboratory in 2002. With these experiences, the team earned herself the support from the National Research Program for Genomic Medicine (NRPGM) and has become a national core to help the researchers in Taiwan since 2005. The core facility is established for services on generating knockout mice and for developing techniques for that purpose. Since then, the core has successfully created over 110 varieties of genetically-manipulated mice and has 80 more strains to accomplish. Underscoring the international acclaim, the team has earned several international contracts for providing gene targeting services.





Rodent Model Resource Center – The rodent strain resource service in Taiwan

Chi-Kuang Leo Wang

National Laboratory Animal Center, National Applied Research Laboratories, Taipei, Taiwan

As the national resource center of laboratory animals in Taiwan, the National Laboratory Animal Center (NLAC) has been dedicated to fulfilling the nation's need on laboratory animals since 1994. In order to further facilitate the biomedical studies using genetically modified rodents, the Rodent Model Resource Center (RMRC), subordinate to NLAC, was officially open in 2009 with the ultimate goal to energize local research through the linkage with global research activities, while most GM rodent resource related services are maintained by the RMRC operations. Furthermore, due to the tremendous needs of human disease models for translational medical research, a medical driven mechanism for generating GM model is critical. Thus, RMRC has initiated a strategic effort for GM model creation. Genes with medical merit and/or with novel importance to the researchers in Taiwan is the first priority for disease model production in RMRC. For better utilization, all animal models generated from this project will be included in the RMRC repository for public search and sharing. Significant influences to the research and biomedical communities are greatly expected.





Selected Scientific Program for AMMRA Participants

Tuesday, November 9, 2010

08:00-17:00	Registration of Delegates	Lobby, 1F
09:00-09:30	Opening Ceremony	201 BCDE, 2F
09:30-10:40	Keynote Session 1 Moderator : Min-Liang KUO	201 BCDE, 2F

Functional Annotation of the Mouse Genome

Wolfgang WURST

10:40-12:00	Keynote Session 2 Moderator : San-Chi Simon LIANG	201 BCDE, 2F
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10:40-11:30 **Research Animal Care and Use: Globalization, Harmonization and Transformation**

Kathryn BAYNE

11:30-12:00 **Animal Welfare Standards in the 8th Edition of the Guide for the Care and Use of Laboratory Animals**

Lida ANESTIDOU & Janet GARBER

12:00-13:30	Lunch	
13:30-14:20	Keynote Session 3 Moderator : Bon-Chu CHUNG	201 BCDE, 2F

Transgenic and Stem Cell Technology

Andras NAGY

14:40-17:10	Oral Session 1 : Mutant Rodent Resource Moderator : Chi-Kuang Leo WANG Xiang GAO	201 BCDE, 2F
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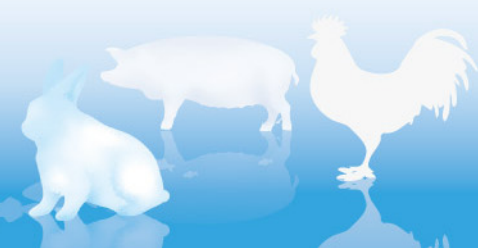
14:40-15:10 **NorCOMM, Resources and Tools for Genetic Modeling in Mice**
Geoffrey G. HICKS

15:10-15:40 **Humanized Mice for Functional Genomics and Human Disease Model**

Kenichi YAMAMURA

15:40-16:10 **Advanced Mouse Resources at RIKEN BioResource Center**

Atsushi YOSHIKI



16:10-16:40 **Mutant Rat Resources at National BioResource Project – Rat in Japan**

Tadao SERIKAWA

16:40-17:10 **Mutant Mouse Resource in China**

Xiang GAO

17:30-20:00 Welcome Reception Banquet Hall, 3F

Wednesday, November 10, 2010

08:30-09:00 Morning Refreshment 101, 1F

09:00-09:50 Keynote Session 4 201 BCDE, 2F

Moderator : Chia-Hung Frank MAO

Current Challenges to Accurate Microbiologic Surveillance of Research Animals

William R. SHEK

10:00-11:00 Special Topic Lecture 1 202, 2F

Moderator : Si-Tse JIANG

Mouse Sperm and Embryo Cryopreservation

Naomi NAKAGATA

11:00-12:00 Special Topic Lecture 2 202, 2F

Moderator : Si-Tse JIANG

Chimeras and Tetraploid Complementation Assay

Andras NAGY

12:00-13:30 Lunch

13:30-16:30 Oral Session 7 : Rodent Models for Biomedical Research 201 BCDE, 2F

Moderator : Huey-Kang SYTWU

Je Kyung SEONG

13:30-13:55 **Integrated Growth Factor Signalling Regulates Urogenital/Reproductive Organ Formation; A General Hint to Think About Organ Development**

Gen YAMADA

13:55-14:20 **Circadian Rhythms and Animal Models**

Ying XU

14:20-14:45 **A Crucial Role of RNA Helicase Rig-I in IgG3 Production and Nfkb1/p105 Translation**



Zhu-Gang WANG

14:45-15:10 **Molecular and Genetic Investigation on Autoimmune Diabetes: From Mechanism Dissection to Clinical Application**

Huey-Kang SYTWU

15:10-15:35 **Role of SNUR4 on Adipogenesis and Osteogenesis, Lessons from SNUR4 KO Mice**

Je Kyung SEONG

15:35-16:00 **The Gene-Manipulated Animals and Research in Mechanism of Fertilization**

Masaru OKABE

16:00-16:25 **Intravital Molecular Imaging of Cellular Processes in Live Mice**

Liqin CAO

Thursday, November 11, 2010

08:30-09:00 Morning Refreshment 101, 1F

09:00-09:50 Keynote Session 5 201 BC, 2F

Moderator : Chi-Kuang Leo WANG

The Establishment on an International Mouse Phenotyping Consortium to Develop an Encyclopedia of Mammalian Gene Function

Mark W. MOORE

10:00-12:00 Oral Session 10 : Laboratory Animal Advanced Technology 201 BC, 2F

Moderator : Chi-Kuang Leo WANG

Xiao-Hui WU

10:00-10:25 **Cryopreservation of Mouse Embryos and Spermatozoa and Their Application**

Naomi NAKAGATA

10:25-10:50 **Recent Technical Advancements of Nuclear Transfer in the Mouse**

Atsuo OGURA

10:50-11:15 **Mammalian Genetic Manipulations with the PiggyBac Transposon**

Xiao-Hui WU



11:15-11:40 **Lentiviral Vector Mediated Transgenesis and Its Application in Mouse Genetics**

Masahito IKAWA

11:40-12:05 **Gnotobiology for Laboratory Animal Sciences: How Should We Utilize Intestinal Microbiota**

Kikuji ITOH

10:00-12:00 Oral Session 11 : Mouse Phenotyping 102, IF
Moderator : Pin OUYANG

10:00-10:50 **Epithelial Identity and Differentiation: Insight into the Function of PNN**

Stephen P. SUGRUE

10:50-11:15 **4-1 BB (CD137), a TNF Receptor Superfamily, Deficiency Reduces Atherosclerosis in Hyperlipidemic Mice**

Goo Taeg OH

11:15-11:40 **Focused-Ultrasound Brain-Drug Delivery: Integration with Nanomedicine Platform**

Tzu-Chen YEN

11:40-12:05 **Taiwan Mouse Clinic - An Experiment for Phenotyping Service**

Jong-Young Jeffrey YEN

12:00-13:30 Technician Lunch & Learn 102, IF
Sponsored by E Joy 2 Corp

13:30-14:20 Keynote Session 6 201BC, IF
Moderator : Jong-Young Jeffrey YEN

Large-Scale Mouse Genetic Infrastructure: Programs at the UK Medical Research Council

Thomas A. WEAVER

14:40-16:40 Mini-Symposium 5 :Trends in Large-Scale Mouse Phenotyping Program in Asia 102, IF
Moderator : Shigeharu WAKANA
Si-Tse JIANG

Introduction of the Japan Mouse Clinic

Shigeharu WAKANA

Introduction of Taiwan Mouse Clinic*Jong-Young Jeffrey YEN***Mouse Phenotype Networking in Korea***Je Kyung SEONG***Introduction of China Mouse Phenotyping Program***Xiang GAO***A Large-Scale Mouse Phenotyping Program in China***Xiao-Hui WU***Recent Activity of IMPC and AMPC Initiative***Shigeharu WAKANA***16:40-17:40**

Special Topic Lecture 3

102, IF

Moderator : Si-Tse JIANG

Modified-SHIRPA: High-Throughput Screen Method to Analyze Mouse Morphology and Behavior Phenotypes*Hiroshi MASUYA**Tomohiro SUZUKI*



Poster Program

Tuesday, November 9, am 9:00 to Thursday, November 11, pm 13:30

Category	Poster Number
Animal Models for Biomedical Research	A1 ~ A49
Facility Management, Animal Welfare, and Rodent Resource	B1 ~ B20
Laboratory Animal Technologies	C1 ~ C27
Nonclinical Animal Testing	D1 ~ D48
Quality Control	E1 ~ E23

Animal Models for Biomedical Research (A1 ~ A49)

Poster Number	Paper Title
A1	Development of a Novel Immunodeficient Mouse Strain, B10.S/SgSlc-Prkdc ^{diy}
A2	Mechanistic Interaction Between Diabetes Mellitus and Alzheimer Disease: Generation of Novel Transgenic Mouse Models of Alzheimer Disease with Diabetes
A3	Loss of <i>Erc/Mesothelin</i> Gene Decreased the Growth of Renal Tumors in <i>Tsc2</i> Knockout Mice
A4	A Novel CHD7 Mutation in Mice Causes Midline Developmental Defects
A5	Protein Phosphatase 2A Catalytic Subunit Alpha is Essential for Normal Erythropoieses in the Mouse Fetal
A6	Systemic POMC Overexpression Increased Visceral Fat Accumulation in C57BL/6 Mice
A7	A Novel Trimeric Collagen Scaffold Molecule, BDL-F, and Its Functional Assay on TNF-Alpha Over-Expressing Cells and Collagen Antibody-Induced Arthritis in DBA/1J Mice
A8	Analysis of Murine Matrix Metalloproteinase 9 Transgene Integration and Gene Expression in Mice
A9	Establish and Analysis of Mesenchymal Stem Cells from Green Fluorescent Protein Transgenic Mouse



Poster Number	Paper Title
A10	The NF- κ b Binding Sites Play the Role in 2.2 kb Human Matrix Metalloproteinase 9 Gene Promoter Region Induced by TNF- α
A11	Study on Embryo Transfer in Thalassemia Transgenic Mouse at National Laboratory Animal Center
A12	All Endocrine Cell Populations Are of Polyclonal Origin As Shown by a Direct in SITU Demonstration in EGFP/BALB/c Chimeric Mice
A13	mTOR Inhibition by Rapamycin Exacerbates the Blood Glucose Homeostasis but Prevents Against Obesity State in KK/H1J Mice Fed a High Fat Diet
A14	Peroxiredoxin I Inhibits K-Ras ^{G12D} -Driven Lung Carcinogenesis in Mice Via Redox Neutralization
A15	Applications of Microdialysis Coupled with Atomic Absorption Spectrometry and High-Performance Liquid Chromatography in the Determination of Brain Trace Element and Oxidative Levels in Gerbils During Focal Cerebral Ischemia
A16	The Establishment of Hyperoxia-Induced Acute Lung Injury (ALI) Mouse Model and the Assessment of rhED-SOD Treatment to Protect Lung Injury
A17	Easy Applicable Model of Ischemia and Reperfusion on Lung Transplantation
A18	Prominent Expression of Laminin γ 3 in Leydig Cells is Nonessential for Mouse Fertility
A19	<i>Plzf</i> Controls Body Weight in Mice Abstract
A20	Immunological Aspects and Therapeutic Significance of an Aitonantibody Against Histone H1 in a Rat Model of Concanavalin A-Induced Hepatitis
A21	Production of Optimum Humanized Mouse Model for Familial Amyloidotic Polyneuropathy
A22	<i>Cisd2</i> Mediates Brown Adipose Tissue Metabolism and Thermoregulation
A23	SNUR4 Inhibition Decrease Fat Mass and Improves Insulin Sensitivity
A24	Phenotypic Effects of <i>Cisd2</i> Deficiency on Cardiac and Skeletal Muscles in Tissue-Specific Knockout Mice
A25	Chemotherapeutic Effects of Resveratrol on Fatty Liver and Hepato-Carcinogenesis in HBx Transgenic Mice



Poster Number	Paper Title
A26	Molecular Process of Hepatocellular Carcinoma in HBx tg Mice Revealed by Gene Expression Profiling and Functional Analysis
A27	Genomic Analysis of Insulin-Sensitive Tissues from Anti-Diabetic Drug Treated ZDF Rats, T2DM Animal Models
A28	The Role of Cisd2, a Mitochondrial Protein, in Adipogenesis of the Mouse
A29	Anticancer Activities of Furanopyrimidine Aurora Kinase Inhibitors
A30	Neural Stem Cells Promote Motor Function Recovery on SAMP8 Mice Subjected to Traumatic Brain Injury
A31	Pharmacologically Enhanced Imaging of ¹⁸ F-FDG Pet for Evaluation of Parkinson's Disease in Rats
A32	Positional Cloning of a Spontaneous Coat Color Mutation of C57BL/6 Mice and a Novel SNP on Chromosome 2
A33	The Modulation of Hepc1 on cTnT ^{R141W} Transgenic Mice
A34	The Development of Transgenic Rat Models Harboring Cre/loxP Recombination System
A35	The Effect of Human Adipose Tissue-Derived Mesenchymal Stem Cells on Avascular Necrosis of the Femoral Head in Nude Rats
A36	Polymyositis with Severe Macrophage Infiltration in a Cynomolgus Monkey
A37	Primary and Secondary Infections of Dengue Virus Serotype 3 and Serotype 2 in Pigtailed Macaques (<i>Macaca nemestrina</i>)
A38	The WHHLM1 Rabbit as a Model Animal for Coronary Spastic Angina
A39	The Analysis of <i>In Vitro</i> Protein Expression Profiles of Tilapia (<i>Oreochromis mossambicus</i>) Testes after Administration of Gonadotropins by Using Two-Dimensional (2D) Gel Electrophoresis
A40	The Analysis of Cell Cycle Stages and Transplantation of Zebrafish Embryonic Cells Expressed Green Fluorescent Protein in Zebrafish (<i>Danio rerio</i>)
A41	Alteration of Cardiac Parameters and Myocardial Injury Induced by Whole Body Hyperthermia in Pigs
A42	Challenge and Polymorphism Analysis of the Novel a (H1N1) Influenza Virus to Normal Animals

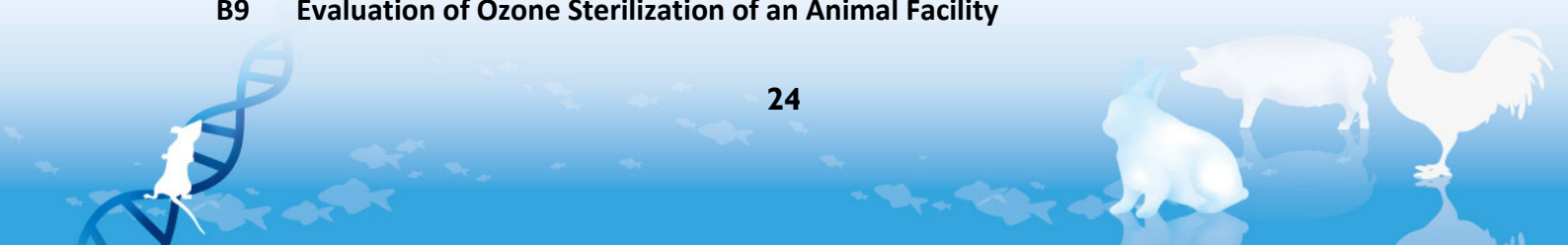




Poster Number	Paper Title
A43	Experimental Study on Hepatitis C Virus (HCV) Infection in <i>Tupaia belangeri</i>
A44	Application of Recombinant Leptin and Its Receptor Protein
A45	A Review on Domestic Laboratory Mini Pig Models of Circulatory Diseases
A46	Application Prospect of Miniature Pig for Animal Model of Human Disease in Biomedical Research
A47	Genomics Assessment of Functional Food and Traditional Drug Using Monkey Model
A48	Genomics Assessment of Nanomaterials in Monkeys: Effect in Alteration of Macrophage Function and Immune System
A49	Assay of Inflammatory Bowel Diseases on Rodent Model of Inflammatory Colitis

Facility Management, Animal Welfare, and Rodent Resource (B1 ~ B20)

Poster Number	Paper Title
B1	Evaluation of Individually Ventilated Cage System: Temperature and Relative Humidity of Intra-Cage Environment
B2	Personnel Training in Performing Clinical Assessing the Health and Condition of Rodents
B3	Medetomidine, Midazolam and Butorphanol Anesthesia in the Rat and Its Reversal Using Atipamezole
B4	Efficiency of Double Layer Paper Box with Wire Mesh for Transportation of Laboratory Animal
B5	Ethical Concept on Laboratory Animal Use in Turkey
B6	Felasa "C" Category Laboratory Animal Training in Turkey
B7	Effect of Environmental Enrichment Program Change to Urinary Cortisol Level in Cynomolgous Monkeys (<i>Macaca fascicularis</i>)
B8	Total Quality Management Improves Laboratory Animal Health, Use and Facility Environment in a Medical Center
B9	Evaluation of Ozone Sterilization of an Animal Facility





Poster Number	Paper Title
B10	Reproductive Performance Index of Outbred Wistar Rat in 41 st - 50 th Generation at National Laboratory Animal Center, Mahidol University
B11	Laboratory Animal Rooms Building Energy Modeling Analysis
B12	CFD (Computational Fluid Dynamics) Analysis of Animal Rooms for Gnotobiotic Mini-Pigs
B13	Effects of Proton Beam on Mouse Embryos
B14	Cryopreservation Utilizing a Vitrification Spatula: A Cost Effective Tool for Mouse Colony Management
B15	Breeding Strategy for Gene Targeting Chimera Mouse in National Laboratory Animal Center (Tainan)
B16	Riken Next-Generation Gene-Targeting System with the ENU Mutant Mouse Library
B17	Rodent Model Resource Center – The First Rodent Resource Repository in Taiwan
B18	Development of Web-Based Database "Pheno-Pub" for Analyses and Browse of Comprehensive Phenotyping Data in Japan Mouse Clinic
B19	Current Progress of Comprehensive Mouse Phenotype in Japan Mouse Clinic
B20	The International Association of Colleges of Laboratory Animal Medicine: A Global Demographic Survey of Diplomate Practices and Trends Across Colleges

Laboratory Animal Technologies (C1 ~ C27)

Poster Number	Paper Title
C1	Sperm Preincubation Using Methyl-Beta-Cyclodextrin Brings about a High Fertilization Rate for Fresh and Frozen-Thawed Sperm in Two Substrains of 129 Mice
C2	Combined Genetic and Pharmacological Approaches for Cognitive Functions
C3	Factors Affecting the Outcome of Mouse ICSI: Factorial Analysis by Genotypes, Stage of Male Germ Cells and Freeze-Thawing Treatment
C4	Granulosa Cell Tumor in Ovaries of a Young Swiss Mouse



Poster Number	Paper Title
C5	An Effective <i>In Vitro</i> Fertilization System to the Reproduction from the C57BL/6J Frozen Sperm
C6	Genetic Profiling System for High-Throughput Whole Genome Scan in Mice
C7	Generation of X-Linked Severe Combined Immunodeficiency (X-SCID) Rats Using Zinc Finger Nuclease Technology
C8	Taiwan Mouse Clinic – National Phenotyping Center
C9	Designing a C57BL/6 v.s. 129 Speed Congenic Panel Using Microsatellite Markers to Assist Production of Congenic Mice
C10	Breeding Status of Laboratory Syrian Hamster Colony Established at National Laboratory Animal Centre, Thailand
C11	Acute Renal Toxicity Study of Melamine and Cyanuric Acid Combination in Rats
C12	Safety Evaluation of SMA-Nanosilver in Mice
C13	Safety Evaluation of Hybrid Genetically Modified Papaya Fruits in Taiwan
C14	Evaluation the Efficacy of BALB/cAnN.Cg- <i>Foxn1</i> ^{nu} /CrINarl Mating Strategy in IVC System
C15	Production, Purification and Functional Characterization of Recombinant Canine Follicle-Stimulating Hormone
C16	Services of Cryopreservation, Rederivation and Genotyping by National Laboratory Animal Center, Tainan
C17	A Technique Platform for Pre-Clinical Development of Hybridoma Cells: Molecular Cloning of Target Immunoglobulin Genes, Serum-Free Expression of Therapeutic Antibodies and Ab/Ag Binding Kinetic Analysis
C18	Generation of Induced Pluripotent Stem Cells in Rabbits
C19	Expression of Capsid Protein of a Newly Identified Rat Parvovirus and Application in Serodiagnosis of RPV Infection
C20	The Development of the PCR Assays for Mouse Parvovirus (MPV) and Minute Virus of Mice (MVM), and the Surveillance of MPV and MVM Infection in Laboratory Mice in Taiwan
C21	The Culture Conditions of Differentiating Osteoblasts from Murine Mesenchymal Stem Cells
C22	Embryo Transplantation in Rabbit



Poster Number	Paper Title
C23	Preliminary Study of Gene Targeting in Tibet Minipig Fetal Fibroblasts
C24	Molecular Cloning and Prokaryotic Expression of Partial Leptin Receptor Extracellular Domain of Tibet Minipig
C25	Targeted Manipulation of Cellular Genomes Using Designed Zinc Finger Nucleases
C26	A New Depression-Like Behavior Mouse Model Induced by Reserpine Injection Alone or in Combination with Electrical Stimulation
C27	Assay of Inflammatory Bowel Diseases on Rodent Model of Inflammatory Colitis

Nonclinical Animal Testing (D1 ~ D49)

Poster Number	Paper Title
D1	A 28 Days Subacute Toxicity Study of ¹⁸⁸ Re-BMEDA-liposomes in Rats
D2	The 14-Day Repeated Dose Toxicity Study of Recombinant Human Factor IX in Rats
D3	The Multiple-Dose Pharmacokinetics of Recombinant Human Factor IX in Rats
D4	Hydrogel Contained Chestnut Honey Accelerates Diabetic Ulcer Healing in db/db Mice
D5	Safety Evaluation of Extracellular Polysaccharopeptides Produced from <i>Trametes versicolor</i> LH-1 Submerged Culture in Mice
D6	Bioactivity Evaluation of Medical Grade PVC Compound for Insufflation Tubing
D7	A Kindling Model of Temporal Lobe Epilepsy in <i>Rhesus macaque</i> Induced by <i>Coriaria</i> Lactone
D8	Subacute (28-Day) Oral Toxicity Study in Rats Fed with ELGUCARE
D9	Evaluation Study of Hepaprotection Function of Bpogen
D10	Studies on Brain and Lung in Cynomolgus Monkeys Exposure to Welding Fumes by the Inhalation
D11	Memory Enhancement and Antiamnesic Effect by Bing-Han Seng Ler Capsule in Mice





Poster Number	Paper Title
D12	Neutralizing Antibodies as a Key Protective Mechanism During Chronic SHIV Infection in CD8 ⁺ T-Cell-Depleted Macaques
D13	Characteristics of Circle of Willis Variations in the Mongolian Gerbil and a Newly Established Ischemia-Prone Gerbil Group
D14	The Expression and Significance of Vascular Endothelial Growth Factor in the Acute Rejection Reaction of Orthotopic Liver Transplantation in Rats
D15	<i>In vivo</i> Study on Immune-Modulation Function of Li Te <i>Antrodia camphorate</i>
D16	The Preliminary Study on EKM-Gene Therapy of AIDS Rhesus Monkeys Model
D17	Contact Hypersensitivity Response by Presensitization with Alpha-Hexyl Cinnamaldehyde and Histologic Findings in ICR Strain Mice
D18	Animal Models for Evaluating Immunogenicity of Polysaccharide-Protein Conjugate Vaccines
D19	Chromium Supplementation Attenuates Development of Obesity in C57BL/6J Mice Fed a High-Fat Diet
D20	Chromium Supplementation Reduced Atherosclerosis Lesions in ApoE-Knockout Mice
D21	The Immuno-Regulatory Effects of rh-EGF on LPS-Induced Sepsis Mice
D22	Endocrine Disrupting Activity Induced by Benomyl and Carbendazim in the Three-Generation of Rats
D23	Thiabendazole Might Exhibit Antagonistic Effect on Mammary Gland Tumor Induced by 17 β -Estradiol in Wistar Rats
D24	Androgen Receptor Mediated Developmental Toxicity and Endocrine Disrupting Activity Induced by Benomyl and Carbendazim with Whole Embryo Culture of Rats
D25	Effects of Routes of Fructose Consumption on C57Bl/6J Mice
D26	Effect of <i>Arctium lappa</i> L. in the Dextran Sulfate Sodium Colitis Mouse Model
D27	Application of ivGTT Model for Drug Screening of Anti-Diabetic (Type 2) Herbal Medicine
D28	13-Weeks Subchronic Oral Toxicity Study with <i>Polygonum Multiflorum</i> Thunb. in Rats



Poster Number	Paper Title
D29	6,7-di-O-Acetylsinococuline (FK-3000) Induces G2/M Arrest in MDA-MB-231 Breast Carcinoma Cells Through p38MAPK Phosphorylation and cdc25B Dephosphorylation
D30	FK-3000 Isolated from <i>Stephania delavayi</i> Diels. Inhibits Breast Cancer Cell Proliferation by Suppressing NF- κ B and COX-2
D31	Antiproliferative Effects of Phenolic Compounds Isolated from Brazilian Propolis
D32	Effect of Kaerophyllin on Collagen Induced Arthritis in Rats
D33	Vitatin, a Soybean Fermentation Product, Attenuates Nonalcoholic Fatty Liver of Hyperlipidemic Hamsters
D34	Urocortin Reduces Intracerebral Hemorrhage-Induced Injury in Rats
D35	Efficiency of Chinese Herbal Medicine HM-02 on Blood Glucose and Blood Lipid Modulation in Type II Diabetic Mice Induced with High Fat Diet
D36	The Influences of Organic and Inorganic Selenium Compounds on Proteomic Expression and Oxidative Stress in Aged Mice Brain
D37	The Protective Effects of <i>Osmanthus fragrans</i> Flower Extract on Brain Monoamine Oxidase and Oxidative Stress of OVA-Immunized Mice
D38	Antioxidative Effects of Propofol in Alloxan-Induced Diabetic Mice
D39	Detection of Anti-Drug Antibodies (ADAS) Against Therapeutic Protein in Collagen-Induced Arthritis (CIA) Animal Model
D40	Human Anti-HSV-1 Monoclonal Antibody Prevent Mice from Herpes Simplex Virus Type 1 Infection
D41	The Effects of Resveratrol on Atherosclerosis in ApoE-Deficient Mice
D42	Study of Rapamycin Combined 5-Fluorouracil in Treatment of Colorectal Tumor in BALB/cByNarl Mice Bearing CT-26 Tumor Cells
D43	Anti-Tumor Efficacy and Mechanism Studies of the <i>Antrodia Camphorata</i> from Fermented Mycelium
D44	Amelioration of Dextran Sulfate Sodium-Induced Colitis by Oral <i>Bacteroides fragilis</i> in Germ-Free Mice
D45	The Ant-Inflammatory Effects of Ganoderma Tsuge on the Heatstroke of Rats



Poster Number	Paper Title
D46	Cellular Immunity of Germ-Free Mice Induced by <i>Bacteroides fragilis</i>
D47	Assessing the Effect and Proper Drug-Light Interval of Chlorin E6 for Light-Emitted Diode Photodynamic Therapy by Using Murine Melanoma Expressing Green Fluorescence Protein
D48	The Anti-Inflammation Effect of Chlorogenic Acid in Dextran Sulfate Sodium (DSS)-Induced Experimental Mouse Colitis

Quality Control (E1 ~ E23)

Poster Number	Paper Title
E1	Serum Proteomic Signatures of Laboratory Rats Housed in Individual Ventilation Cages VS. General Diluting Ventilation Cages
E2	Studying Technique for Genetic Monitoring in Outbred Stock Zebrafish
E3	Use of a Probe to Detect Five Common Laboratory Rodent Parvoviruses in Cell Culture
E4	Evaluation the Efficacy of Pathogens Detection in IVC System by Soiled-Bedding Sentinel Program
E5	Application of Polymerase Chain Reaction to Detect <i>Corynebacterium bovis</i> Associated with Hyperkeratotic Dermatitis of Athymic Nude Mice
E6	Malignant Schwannoma in Heterozygous BALB/cMlac Nude Mouse
E7	Carcinosarcoma in Heterozygous BALB/cMlac Nude Mouse
E8	Distribution of Unidentified <i>Helicobacter</i> Spp. in the Gastrointestinal Tract and the Hepatobiliary System of Laboratory Mice
E9	A Survey of Microbiological Status of Laboratory Rats and Mice in Taiwan During 2008-2009
E10	Monitoring of Health Status in Inbred and Outbred Mice at the National Laboratory Animal Center, Mahidol University, Thailand
E11	Serum Chemistry Value in 2009 of Sprague-Dawley Rat at the National Laboratory Animal Center, Mahidol University, Thailand



Poster Number	Paper Title
E12	Establish a Procedure for Detecting <i>Campylobacter jejuni</i> by Culture Method in Laboratory Rodents
E13	Mutual Recognition of Laboratory Animal Facility Accreditation Results and Role of Accreditation Bodys
E14	Characterization and Genetic Diversity Analysis of Microsatellite DNA in Tree Shrews (<i>Tupaia belangeri chinensis</i>)
E15	Investigation on Etiopathogenesis and Disease Control in a Large-Scale Dysentery Outbreak in <i>Cynomolgus</i>
E16	Development and Characterization of Eight Novel Microsatellite Markers from Guinea Pig (<i>Cavia porcellus</i>)
E17	The Distribution of Microorganisms in Laboratory Mice and Rats of Animal Facilities in Korea
E18	The Comparison of Blood Physiological and Biochemical Parameters Between Three Kinds of Mini Pigs in Guangzhou
E19	Surveillance of Murine Norovirus in Japan
E20	Development of Genetic Markers in Common Marmoset
E21	Age-Related Changes in Serum Chemistry and Hematology Values of C57BL/6JNarl Mice
E22	Automated Analysis of HomeCageScan to Identify Based Behaviour in Mice
E23	Eradication of <i>Helicobacter</i> and Mouse Norovirus Using Neoatal Transfer with Hypochlorous Acid Immersion

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