
September 10th, 2014

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Webpage of KcLAM
Brief history of KcLAM

◆ Foundation at August 25th, 2006 (First president: Professor Jaehak Park, SNU)
◆ Joining the International Association of Colleges of Laboratory Animal Medicine (IACLAM) at October 31st, 2006
◆ First examination for DKcLAM at September 26th, 2009
  : 17 DVMs were passed and got DKcLAM
◆ Second presidency from October 1st, 2009
  (President: Professor JinSoo Han, Konkuk University)
◆ Joining the Korean Veterinary Medical Association at February 9th, 2010
◆ Third presidency from October 1st, 2011
  (President: Professor Min Jae Lee, Kangwon National University)
◆ Fourth presidency from October 1st, 2013
# Organization of KcLAM

<table>
<thead>
<tr>
<th>Position</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Professor Yong Heo (Catholic University of Daegu)</td>
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<tr>
<td>Counselor</td>
<td>Professor Emeritus Young-Soon Lee (SNU), ex-presidents</td>
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<tr>
<td>Vice President</td>
<td>Dr. Si-Wan Song (Chemon, Co., Ltd., CEO), Dr. Byung-Han Lee (Osong Medical Innovation Foundation)</td>
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<td>AAALAC ambassador</td>
<td>Dr. Chyul-Gyu Kim (Osong Medical Innovation Foundation)</td>
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<tr>
<td>Secretary general</td>
<td>Professor Byung-Chul Kang (SNU) with 2 staffs</td>
</tr>
<tr>
<td>Education and Certification Committee</td>
<td>Professor Yang-Gyu Choi (Konkuk University) with 6 staffs</td>
</tr>
<tr>
<td>Committee of International Cooperation</td>
<td>Professor Jae-Kyung Sung (SNU) with 2 staffs</td>
</tr>
<tr>
<td>Judiciary Committee</td>
<td>Dr. Chul-Ho Lee (Korea Research Institute of Bioscience &amp; Biotechnology) with 2 staffs</td>
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<tr>
<td>Committee of Finance</td>
<td>Dr. Ki-Hwan Nam (Korea Research Institute of Bioscience &amp; Biotechnology) with 2 staffs</td>
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<tr>
<td>Committee of Public Relations</td>
<td>Professor Yun-Sik Choi (Korea Polytech University) with 2 staffs</td>
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<tr>
<td>Fund Raising Committee</td>
<td>Dr. Kyung-Haeng Heo (Agency for Defense Development) with 2 staffs</td>
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<tr>
<td>Local branch</td>
<td>5 branches nationwide</td>
</tr>
</tbody>
</table>
Current membership status

- Academia: 101
- Government or National institutes: 55
- Life science companies including CRO: 46
- Others: 15
- Foreign: 1

Total: 228 DVMs
Current DKcLAM status
(annual examination at September)

- 2007 : 6 (Honorary DKcLAM)
- 2009 : 17 (First examination)
- 2010 : 4
- 2011 : 3
- 2012 : 3
- 2013 : 2

Total : 35 DKcLAMs
- 2014 : 6th Examination is scheduled at September 27th
2. Qualification Review
Candidates must have completed all of the following criteria.

1) Member of Korean Veterinary Medical Association (KVMA) among veterinarians authorized by the Veterinarians Act in Korea

2) Member of KCLAM for two or more years at the time of application

3) Primary author (or correspondent author) of one or more papers related to laboratory animal or animal experiment published on SCI (including SCI-E journals or journals registered with National Research Foundation of Korea (including candidate journals)

4) Candidate who satisfies one or more of the following criteria
   (1) 5 years of experiences as an attending veterinarian at a laboratory animal facility
   (2) 3 years of experiences as an attending veterinarian at a laboratory animal facility under the tutelage of a DKCLAM
   (3) Master's degree holder in Laboratory Animal Medicine with 1 year of experience under the tutelage of a DKCLAM
   (4) PhD degree holder in Laboratory Animal Medicine

2) Examination methods
   (1) The written examination consists of a required subject “General Laboratory Animal Medicine” and an elective subject “Specific Laboratory Animal Medicine”. The general and specific subjects are scored out of 80 and 20 points, respectively.

   (2) “General Laboratory Animal Medicine” covers common knowledge that are not confined to particular animal species as well as animal biology of each species, diseases of rodents (mice, rats) and basic knowledge about each animal species.

   (3) Applicant chooses one subject among the following five “Specific Laboratory Animal Medicine”.
      (a) Hamsters, guinea pigs, gerbils, rabbits
      (b) Dogs, cats
      (c) Pigs, goats, sheep
      (d) Non-human primates
      (e) Amphibia, reptiles, fish (including zebra fish)
<table>
<thead>
<tr>
<th>Date</th>
<th>Place</th>
<th>Main theme</th>
<th>Format</th>
</tr>
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<tbody>
<tr>
<td>25th</td>
<td>April 27th, 2013</td>
<td>Mouse partial hepatectomy, basic microsurgery for rat</td>
<td>Practice</td>
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<td></td>
<td>Samsung Seoul Hospital</td>
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<tr>
<td>26th</td>
<td>July 13th, 2013</td>
<td>Electronic system for prescription of veterinary medicinal drugs. Lesson from Sendai virus, MHV infection to laboratory animals</td>
<td>Lectures</td>
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<td></td>
<td>Konkuk University</td>
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<tr>
<td>27th</td>
<td>October 10th, 2013</td>
<td>Veterinary medication for laboratory animals: anesthetics, analgesics, sedatives, antibiotics, etc.</td>
<td>Symposium</td>
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<td>Seoul K-hotel</td>
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<tr>
<td>28th</td>
<td>December 19th~20th, 2013</td>
<td>In vivo molecular imaging (CT, MRI, Ultrasound, etc.)</td>
<td>Forum</td>
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<td>SNU Hospital</td>
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<td>29th</td>
<td>April 18th, 2014</td>
<td>KcLAM guidelines on euthanasia to rodents, rabbit, dog, pig, primates, humane endpoint for fish, amphibians</td>
<td>Lectures</td>
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<td>Osong Medical Innovation Foundation</td>
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<tr>
<td>30th</td>
<td>July 11th, 2014</td>
<td>Clinical pathology and microbiological monitoring</td>
<td>Practice</td>
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<td></td>
<td>SNU Green campus in Kangwon Province</td>
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22nd Annual Education for CT practice and rabbit inhalation anesthesia at July 14th, 2012
23rd Education Program on Bleeding, Anesthesia, Administration, etc. to Non-human primates, Seoul National University Hospital at October 20th, 2012
27th Symposium
Supported by
Korean Veterinary Medical Association
at October 10th, 2013
28th Forum on In Vivo Imaging
at December 19th, 2013
30th Annual Education at July 11th, 2014
Staff workshop or meetings
(every 2 or 3 months interval)

30th staff meeting
at YongPyong resort
at February 21st, 2013

35th staff workshop
at SNU Green campus
at February 7~8th, 2014
Out-reach activities of KcLAM

Co-operation with Korean Veterinary Medical Association

- Official affiliated organization of KVMA
- Preparation of electronic files for animal welfare used for cyber-lecture to members of KVMA
- Education on Institutional Animal Care & Use Committee for members of KVMA
- Advice on policy making for veterinary medicinal prescription, etc.
- Participation on Korean Veterinarians Congress
Supervision on making or revising laws on (laboratory) animal protection and welfare

- Supervision on revision of the Laboratory Animal Act


- Recommendation of IACUC member to various organizations
Cooperation with Korean Association of Laboratory Animal Sciences

- Organization of sessions in KALAS annual conference:
  - one session for pain management
  - the other session for veterinarian prescription (2013)
Cooperation with organizations related with laboratory animal use

- MOU sign between SNU GreenBio campus and KcLAM for management of laboratory animal facilities in the campus
Outline of Korean Laws on Animal Welfare Focusing on Laboratory Animal Act
Three Korean Laws Addressing Animal Welfare

Laboratory Animal Act
Laboratory Animal Act

- Enforcement from March 29th, 2009
  - 1st revision at March 19th, 2010
  - 2nd revision at July 30th, 2013

- Presidential Enforcement decree from March 29th, 2009
  - recently revised at March 23rd, 2013

- Ministry decree from September 1st, 2010
  - recently revised at April 1st, 2014
Animal Protection Act

Wild Animal and Plant Act
Animal Protection Act

- Enforcement from July 1\textsuperscript{st}, 1991
  - recently revised at March 24\textsuperscript{th}, 2014

- Presidential Enforcement decree from January 27\textsuperscript{th}, 2008
  - recently revised at February 11\textsuperscript{th}, 2014

- Ministry decree from January 27\textsuperscript{th}, 2008
  - recently revised at April 8\textsuperscript{th}, 2014
Concerning 3R Spirit for Laboratory Animal

**Refinements**
Methods which alleviate or minimize potential pain and distress, and which enhance animal well-being

**Reduction**
Methods for obtaining comparable levels of information from the use of fewer animals in scientific procedures, or for obtaining more information from the same number of animals

**Replacement**
Methods which permit a given purpose to be achieved without conducting experiments or other scientific procedures on animals

**Laboratory Animal Act**
would be the core law
Laboratory Animal Act

7 Chapters
33 Articles
Chapter 1 (General provisions)

Article 1 (Purpose)
To improve the citizens’ health and to promote the progress of life sciences through enhancing reliability and ethics on animal experiments, which will be achieved by appropriate management of laboratory animals and experiments using the animals

Article 2 (Definitions)
1. Animal experiment: experiments or scientific procedures using laboratory animals for educations, tests, researches, or production of biological products.
2. Laboratory animal: vertebrates used or reared for animal experiments
3. Disaster: infection of personnels or animals, incidence of infectious diseases, exposure to toxic materials, or environmental contamination through animal experiments.
4. Animal experiment facility: animal experiment facility or laboratory animal rearing facility for the experiments, which are defined by the presidential enforcement decree.
5. Laboratory animal production facility: facility to produce or rear the laboratory animals.
6. Administrator: Person who operate animal experiment facility or laboratory animal production facility.
Animal experiment facility
(Presidential Enforcement Decree, Article 2)

1. The facility established or operated by institutes or organization for manufacturing, importing, or selling the items as followings:
   - food by Food Hygiene Act
   - functional food by Functional Food Act
   - medicinal products or quasi-drugs by Pharmaceutical affairs Act
   - medicinal equipments (except equipments for animals) by Medical Equipment Act
   - cosmetics by Cosmetics Act
   - narcotics by Narcotics Act

2. Public health center by Local Public Health Act
3. Medical institutes by Medical Act
4. Public health and environment institutes by Public Health and Environment Institute Act
5. Any institutes or organization performing animal experiments for development, safety management, or quality control for the items addressed at number 1 above.
Chapter 1

Article 3 (Application)

The Act is applied to animals and management of animal experiment facilities used for the followings:

• Development, safety and quality management of food, functional food, medicines, quasi-drugs, biological medicines, medical equipments, or cosmetics.
• Safety and quality management of narcotics.

Article 4 (Relation with other laws)

Other regulations on use and management of laboratory animals, which are not covered by this Act, shall be complied to Animal Protection Act.
Chapter 1

Article 5 (Responsibility of Ministry)

1. Preparing and undertaking policy on use and management of laboratory animals.
2. Support for building or operating animal experiment facilities.
3. Aid for maintenance, preservation, and development of laboratory animals within animal experiment facilities.
4. Support researches for improvement of laboratory animal quality.
5. Aid for education and collection of information related with laboratory animals.
6. Preparing and undertaking policy on development and acceptance of alternative methods.
Chapter 2 (Scientific use of laboratory animals)

Article 6 (Responsibility of animal experiment facility administrator)

The administrator shall bear the responsibility of performing the followings to secure safety and reliability of animal experiments:

- Establishment of guidelines on scientific use and management of laboratory animals.
- Education of personnels related with animal experiments.
- Preferential consideration of alternative methods.
- Planning on safety of workers and appropriate disposal of animal experiment wastes.

Article 7 (Institutional laboratory animal operation committee)

Each animal experiment facility shall establish and operate an institutional laboratory animal operation committee for achieving ethics, safety, and reliability of animal experiments, which are defined by the presidential enforcement decree.
Institutional laboratory animal operation committee (Presidential Enforcement Decree)

**Article 3 (Function)**

The committee shall examine any of the following subparagraphs:

1. Plan and undertaking of animal experiments
2. Operation of animal experiment facility
3. Justice on animal experiments using hazardous materials
4. Management and rearing of laboratory animals
5. Other matters on ethics, safety, and reliability of animal experiments

**Article 4 (Organization)**

The committee shall be composed of maximum 15 and minimum 4 members (2 year service term) including chairperson, who are entrusted by administrator:

1. Veterinarian by Veterinarian Act (at least one member)
2. Ph.D. from animal experiment area who has careers in animal experiment or its management (at least one member)
3. NGO recommendation: personnels with at least junior college graduates or completing education programme by the Ministry, who has knowledge and experience on animal welfare (at least one member)
4. Others who has knowledge and experiences on animal experiments

At least one member from #1 or #2 and #3 member should have no interest in the animal experiment facility. The member involved with the animal experiment evaluated by committee should be excluded from the evaluation.
Chapter 3 (Animal experiment facility)

Article 8 (Registration of animal experiment facility)

• Someone who wants to build animal experiment facility or change the registration contents shall register to the Ministry.
• Each facility shall employ worker (manager) qualified for management of facility and animals: The presidential enforcement decree shall provide the information on qualification.
• The details on registration is provided in the ministry enforcement decree.

Article 9 (Use of laboratory animals)

• Preferential use of animals supplied by certified good animal production facilities or their own facilities.
• Use of animals imported from foreign countries, which are appropriate to the guidelines by the ministry enforcement decree.

Preferential animals (Presidential Enforcement Decree, Article 8)

• Mouse, rat, hamster, gerbil, guinea pig, rabbit, dog, pig, or monkey
Manager (Presidential Enforcement Decree, Article 7)

Personnels with at least junior college who has at least 3 year experiences on animal experiments or its management

Registration of animal experiment facility
(Ministry Enforcement Decree, Article 3)

The facility should establish rooms as followings and prepare SOP on facility sterilization and animal rearing:

1. Rearing room
   - separated from operation room and wastes storage room
   - separated room for each animal species
   - equipment to control temperature and moisture
2. Operation room for dissection or surgery if necessary
3. Wastes storage room for carcass or other wastes

Animal import (Ministry Enforcement Decree, Article 7)

Animals from foreign countries should be imported from production facilities which are officially authorized on quality control from their government, or animals themselves which are passed from quality control tests by foreign institutes.
Chapter 3 (Animal experiment facility)

Article 10 (Certification of good animal experiment facility)

- The minister can give a good animal experiment facility certificate to the facilities with appropriate workers and facility, and good operational conditions: Certification guideline is provided by ministry enforcement decree.
- The minister can recommend performing animal experiments at the certified animal experiment facilities.

Article 11 (Supervision on animal experiment facility)

- The facilities registered or certified as a good animal experiment facility shall be supervised by the ministry.
- The details on supervision contents, time, or others are set up by the minister.
Certification of good animal experiment facility
(Ministry Enforcement Decree, Article 8)

1. Human resources
   - attending veterinarian (minimum 1 person with manager quality)
   - workers with at least 3 year experiences in animal experiments or its management (minimum 1 person)

2. Facility
   - office, each room for animal rearing, experiment, quarantine, surgery, dissection, washing, general storage, shower, and wastes storage
   - Each room should be controlled on temperature, moisture, and ventilation
   - separated room for each animal species
   - Barrier system to prevent flowing of outside contaminants

3. Preparation of SOP on the management of facility including veterinary care
Chapter 4 (Laboratory animal supply)

Article 12 (Registration of laboratory animal supplier)

- Laboratory animal supplier who produce, import or sell laboratory animals should register to the ministry. But this regulation is not applied to supply of animals maintained or produced during researches at animal experiment facilities.

Article 13 (Observance by laboratory animal supplier)

- Manage laboratory animal production facility and animals to secure safety and not to have public health hazards.
- Transport animals conforming to their own ecological conditions

Article 14 (Import of laboratory animals)

- Regarding import and quarantine, follow Prevention of Infectious Diseases to Economic Animal Act.
Chapter 4 (Laboratory animal supply)

Article 15 (Certification of good laboratory animal production facility)

- The minister can give a good laboratory animal production facility certificate to the facilities with appropriate workers and facility, and good management conditions: Certification guideline is provided by ministry enforcement decree.
- It is not allowed for the uncertified suppliers to advertise or mark as the certified facility at all circumstances.

Article 16 (Supervision on animal production facility)

- The facilities registered or certified as a good animal production facility shall be supervised by the ministry.
- The details on supervision contents, time, or others are set up by the minister.
Certification of good animal production facility
(Ministry Enforcement Decree, Article 16)

1. Human resources
   - attending veterinarian (minimum 1 person with manager quality)
   - workers with at least 3 year experiences in animal experiments or its management (minimum 1 person)

2. Facility
   - office, animal production room, quarantine, washing, general storage, shower, and wastes storage
   - Each room should be controlled on temperature, moisture, and ventilation
   - separated room for each animal species
   - Barrier system to prevent flowing of outside contaminants

From all-creatures.org
Chapter 5 (Safety management)

Article 17 (Education)

- Animal experiment facility operator, manager, animal supplier, and other animal experimenters
- The details on education (time, institute, contents, fee, etc) are provided by ministry enforcement decree.

Article 18 (Prevention of disaster)

- Administrator or manager of animal experiment facility should take actions to prevent disaster, which may be caused by performing animal experiments using toxic materials or infectious agents.
- Administrator or manager of animal experiment facility and animal production facility should take emergency measures including sterilization or shut down of the facility when disasters resulting in hazards to publics are expected, and report to the minister. The details conforms to Prevention of Infectious Diseases to Economic Animal Act.
- Administrator or manager of animal experiment facility and animal production facility should take emergency measures including sacrifice of the animals when disasters resulting from animal experiments or animals themselves are expected, and report to the minister. The details conforms to Prevention of Infectious Diseases to Economic Animal Act.
Education
(Ministry Enforcement Decree, Article 20)

1. Education provider
   - The laboratory animal association
   - Health and Welfare Human Resources Institute by Health and Welfare Human Resources Institute Act
   - Institutes or organizations related with laboratory animals
   - At least junior colleges
   - Animal experiment facility administrator (education on own experimenters)

2. Contents
   - lecture on Laboratory Animal Act and obligation of administrator, manager, experimenters : 1 hour
   - lecture on management of animal experiment facility or production facility : 1 hour
   - lecture on role of Institutional laboratory animal operation committee : 1 hour
   - lecture on quality control of laboratory animals including microbiological monitoring : 1 hour
   - lecture on veterinary care, laboratory animal welfare and ethics : 2 hour
Chapter 5 (Safety management)

Article 19 (Report on use of biological hazards)

- Administrator of animal experiment facility should report to the minister before performing animal experiments using biological hazards defined by ministry enforcement decree.

Article 20 (Wastes including carcass)

- Administrator and manager of animal experiment facility and animal supplier should take care of carcass not to be leaked outside.
- Wastes including carcass from the facilities shall be treated by Wastes Management Act.
Chapter 6 (Record and opening of information)

Article 21 (Record)

• Animal experimenter should record animal species, number of animals, experiment procedures, experimenter information, which are outlined by ministry enforcement decree (Article 22: keep the record for 3 years: The committee approval number, experiment duration, title and contents of the experiments, principal investigator for the animal experiments, type of animal experiments, number of animals used).

Article 22 (Report of animal experiment status)

• The minister should annually report the animal experiment status including information as follows:
  - animal species and number of animals for the experiments
  - disposal of the animals used
  - number of animal experiment facility and production facility
  - status of supervision on animal experiment facilities
  - status on using toxic materials or infectious agents, or other biological hazards
  - status on registration cancellation for animal experiment facility and production facility
Article 23 (Laboratory animal association)

• The association shall be established to promote laboratory animal industry and enhance reliability of animal experiments.
• The association shall be a corporation aggregate. Member of the association shall be operator or manager of the animal experiment facility registered, and other personnel with knowledge and skills on laboratory animal science area.
• The association should get the foundation permission from the minister.
• The association can get a financial support from the State Government if necessary.

Article 24 (Cancellation of registration)

• The minister can cancel the registration of animal experiment facility or animal supplier or suspend its operation for maximum 6 months when they are falling under any of the following subparagraphs:
  - registration by illegal ways
  - when disaster is occurred from the facility
  - when the facility is not following the supervision of the ministry or under the supervision criteria
• Certification as a good animal experiment facility or animal production facility can be also cancelled or the facility operation can be suspended for maximum 6 months when they are falling under any of the above subparagraphs.
Chapter 7 (Supplementary provisions)

Article 26 (Auditing)

• The minister should undertake auditing before the cancellation or operation suspension.

Article 28 (Penal provisions)

• The operation suspension can be substituted to a fine of maximum 50 million won.

Article 30 (Penalty)

• The animal supplier who did not register can be punished by a fine of maximum 5 million won.

Article 33 (Fines)

• Anyone falling under any of the following subparagraphs shall be punished by a fine of maximum 1 million won:
  - no registration of animal experiment facility
  - fake use of the good animal production facility certificate
  - operator or manager of the animal experiment facility, and animal supplier who did not take education in Article 17
  - false report or no report on occurrence of the disaster in Article 18 & 19
More Regulatory information From Animal Protection Act, Presidential/Ministry Enforcement Decree
Article 2 of Presidential Enforcement Decree (Animal covered)

- Mammals, birds
- Among reptiles, amphibia, and fish, species decided by the Ministry after consultation with central government bodies related

Article 23 of Act (Animal experiment principle)

- Animal experiment should be undertaken considering promotion of human’s welfare and dignity of animal’s life.
- Alternative methods are considered first.
- Animal experiment should be done by persons who have knowledge and experience on scientific use and ethical treatment of animals for experiments.
- Minimal number of animals should be used.
- Concerning experiments accompanying pain to animals, less sensible animals should be used, and veterinary care to relieve pain should be given.
- After experiment, animals should be immediately inspected, then, if the animals can not be recovered or might live with persistent pain, the animals should be sacrificed.
- No experiments are allowed using abandoned animals and accompanied animals served for human beings such as guide dog or blind person’s dog:

Exception (Ministry Enforcement Decree Article 13) :
- in case of diagnosis, treatment, or related research on zoonosis
- experiment for quarantine/surveillance of diseases
- scientific research to investigate ecological/habitual evaluation
- need approval of IACUC
Article 27 of Act (Member of Institutional Animal Care & Use Committee)

The committee shall be composed of maximum 15 and minimum 3 members including chairperson, who are entrusted by administrator:

1. Veterinarian with DKcLAM or with at least 1 year working for animal experiments, or finished the education by the ministry (at least one member)

2. NGO recommendation: personnel who has knowledge and experience on animal welfare (at least one member)

   NGO: Article 5 of Presidential Enforcement Decree
   - corporation aggregate with purpose of animal protection
   - other animal protection NGO registered by NGO Support Act

   Qualification: Article 26 of Ministry Enforcement Decree
   - 1 year animal welfare or protection experience at NGO above or
   - completing education course for animal welfare/protection or animal experiment provided by NGO above or junior college or
   - completing education course for animal welfare/protection or animal experiment provided by Animal, Plant and Fisheries Quarantine and Inspection Agency

3. Others
   - Ph.D. from animal experiment area who has careers in animal experiment or its management
   - Lawyer or professor major of law
   - Professor teaching animal welfare/protection at junior college above

At least one third of members should have no interest in the animal experiment facility. The member involved with the animal experiment evaluated by committee should be excluded from the evaluation.
Article 6 of Presidential Enforcement Decree (Establishment of IACUC)

Animal facility required for IACUC establishment:
1. Animal facility in state or local government
2. Research institutes which are government-funded
3. Organization issuing test report on safety or efficacy of medicinal products by Pharmaceutical affairs Act
4. Organization issuing test report on safety or efficacy of cosmetics by Cosmetics Act
5. Junior colleges above by Higher Education Act
6. Medical institutes by Medical Act
7. Organization manufacturing or importing medicinal equipments by Medical Equipment Act
8. Institute testing toxicity of chemicals by Hazardous Chemical Management Act
9. Institute testing agro-chemicals by Agro-chemicals Management Act

Administrator of animal facility should annually report on IACUC and animal experiment status to the Ministry by next year February.
Conclusion

- There are many international and national standards, regulations and guides in animal welfare updated since 2010.
- The most of these emphasize practical implementation of 3Rs.
- Training and education for the competency of personnel involved in animal procedures were emphasized.
- Adequate veterinary care by qualified laboratory veterinarian should be available.
- The standard training courses for personnel involved in large animal work.