

Central Animal Facility (CAF)

NIPER-Raebareli has a centralised Animal House Facility which is registered with CCSEA (Committee for the Control and Supervision of Experiments on Animals).

CCSEA Reg. No.- 1954/GO/ReBi/S/17/CCSEA

CAF works as the R&D support facility of the institute. The Animal Facility has its own IAEC (Institutional Animal Ethics Committee) constituted specifically to address scientific and ethical considerations of animal use for research, and this has been in existence since 2017. The CAF is located in the two secluded corners of the campus with minimum noise levels thereby facilitating an excellent ambience for animal well-being. The trained husbandry staff and veterinarian ensure the animal wellbeing in accordance with CCSEA regulations. This facility is well equipped with high standard barrier facility segregated into two areas in order to provide sufficient space for different activities and capable of conducting simultaneous animal studies.

The CAF provides investigators with the infrastructure for housing and experimentation on rats, mice and rabbits. The facility is the backbone of research projects of NIPER-R. It is facilitated to maintain various species and strains of quality animals and sustain the animal experimentation of various PI's in the institute.

Objectives:

- Maintenance of different species & strains of small laboratory animals (like rat, mice and rabbit).
- Provide scientific and technical support to PI's.
- To facilitate therapeutic area specific animal models for drug discovery for various diseases like Alzheimer's, Parkinson's, other neurodegenerative and lifestyle disorders, inflammation, Cancer, Arthritis etc.
- Acute, sub-acute and chronic toxicity studies.
- To conduct regulatory studies for drug development as per OECD guidelines for animal experimentation.
- Follow 3R's concept in research: Reduction, Refinement and Replacement.
- The chief mandate of the CAF is to breed and maintain different strains of mice and rats and supply them upon request to PI's within the institute, depending upon the availability of animals.

Main Features:

1. Central Animal Facility segregated into different rooms equipped with air conditioning.
 - Animal experimentation rooms
 - Quarantine rooms
 - Separate Animal Holding rooms
(IVC cage system are used for keeping the animals to ensure uniform air supply and to avoid cross infection from one cage to another)

- Washing area
 - Store rooms
2. The animal housing rooms are well equipped to maintain temperature of $22\pm 2^{\circ}\text{C}$, along with relative humidity of 30-70%.
 3. RO water purifiers for clean water supply.
 4. The facility is maintained at 250-350 lux illumination with 12 hr day/dark cycles and noise level of less than 75 dB with uninterrupted power supply.
 5. The presence of horizontal autoclave for sterilization of animal house accessories.
 6. The facility is equipped with separate surgery room, necropsy room, neurobehavioral study lab and biochemistry lab.
 7. Separate area is demarked for disposal of animal carcass.
 8. The deep freezer and incinerator for proper storage and disposal of animal carcass respectively.

List of laboratory animal strains maintained at CAF:

- Mice- BALB/c, C57BL/6, Swiss Albino
- Rat- Sprague Dawley, Wistar
- Rabbit- New Zealand White

Major research areas:

- Central animal facility facilitates therapeutic area specific animal models for drug discovery for various diseases with major focus on neurodegenerative diseases.
- The facility is fully equipped for preclinical animal experimentation studies in the following research areas are being regularly carried out in or facility:
 - Neurological studies
 - Toxicity studies
 - Studies on metabolic diseases
 - Dermatological studies
 - Animal Behavioural studies
 - Pharmacological evaluation studies
 - Pharmacokinetic and pharmacodynamics studies
 - Drug bioavailability studies
 - Reproductive studies
 - Oncology studies
 - Bio distribution studies (using LCMS, HPLC and IVIS)
 - Studies on drug delivery system







Working Hours:



- The CAF operates 24*7 on all the days including Sundays and holidays.
- Official working hours: 9:00 AM to 5:30 PM on all working days.

Instruments available in the Animal Facility:

1.	<p>Hot plate Analgesiometer (IITC Life Science Model No. 39)</p> <p>To Measure peripheral analgesic activity by detection of animal resistance to pain.</p>	
2.	<p>Electronic Randall Selitto test system (IITC Life Science Model No. 2500)</p> <p>To study neuropathic pain conditions affecting both the fore- and hind limbs.</p>	
3.	<p>Digital Plethysmometer (IITC Life Science Model No. 2500)</p> <p>To measure the effectiveness of anti-inflammatory agents to reduce edema conditions digitally on both mice and rat.</p>	
4.	<p>Microprobe digital thermometer (Physitemp instrument INC Model. BAT-12)</p> <ul style="list-style-type: none"> ➤ Temperature monitoring ➤ Cryogenic measure for blood banking ➤ Skin temperature measurement in exercise experiment 	
5.	<p>Rotamex-5 (Columbus Instruments Model No. 0254-2002L)</p> <p>To assess muscle relaxant activity of rodents.</p>	

6.	<p>PACS-30 (Columbus Instruments)</p> <p>It can be used for Active and passive avoidance behaviour.</p>	
7.	<p>Opto-Varimex-4 (Columbus Instruments)</p> <p>It can be used for measuring locomotor activity, stereotypic movement, vertical movement, time in square, and animal path.</p>	
8.	<p>Digital stereotaxis (Stoelting Model No.51500D)</p> <p>To perform surgeries on both mice and rat with greater speed and accuracy due to the digital display.</p>	
9.	<p>Sociability Apparatus (Stoelting Model No.60450)</p> <p>To perform autistic-like behaviours in rodents.</p>	
10.	<p>Open field (Stoelting Model No.60100)</p> <p>To assess exploratory behavior, and is validated for use in the measurement of anxiety-related behaviours.</p>	
11.	<p>T-maze for Mouse and Rat (Stoelting Model No. 60181, 60281)</p> <p>It is used largely in preference and spatial learning tasks.</p>	

12.	Animal respirator compact (TSE system) To assist or control the breathing of small animals such as rats and mice in research and veterinary settings.	
13.	Rodent shocker (HSE Haverd instrument Model No.Type 221) It can be used during testing the anticonvulsant drug on mice and rat by using eye and ear electrode.	
14.	Radnoti Lagendorff system (AD Instruments Model No. PTK28-220) It is used the examination of cardiac contractile strength and heart rate without the complications of an intact animal.	
15.	8 Channel Organ bath with Power Lab (Orchid Scientific Model no. PTK28-220) To study effect of drug/chemical substances on isolated tissues in vitro.	
16.	Digital Wheel type swimming apparatus (Techno Application) The apparatus can be used for a rodent behavioral test for evaluation of antidepressant drugs, antidepressant efficacy of new compounds/formulations, and experimental manipulations that are aimed at rendering or preventing depressive-like states.	
17.	Cook's Pole climbing apparatus (Techno Application) To determine the antipsychotic activity and is based on principle of ability of psychotropic drugs to avoid conditioned response.	

18.	<p>Audiogenic test chamber (Techno Application)</p> <p>It provides auditory stimulus for evaluation of ataraxic agents.</p>	
19.	<p>Histamine aerosol apparatus (Techno Application)</p> <p>This instrument can be used for evaluation of Antihistaminic drug.</p>	
20.	<p>Morris water maze (MWM) apparatus</p> <p>The instrument is used for behavioural neuroscience for studying psychological processes and neural mechanisms of spatial learning and memory.</p>	
21.	<p>Cryotome Epredia_HM525 NX</p> <p>The instrument is used in neuroscience to cut frozen tissue sections for microscopic analysis. It allows tissue to be frozen quickly and then sliced into thin sections that can be mounted on microscope slides for further examination.</p>	

Guidelines to be followed in Animal Facility:

1. Animal house access is granted only to the authorized person permitted to perform the animal study.
2. All the persons authorized to enter the animal facility have to strictly adhere to the SOP.
3. All the persons entering the facility have to wear the PPE (Lab coat, face mask, head cap, shoe cover) all the time.
4. Animal Experimentation is allowed only after approval of protocol by IAEC and animal housing days will be according to IAEC approval.
5. No change/deviation from approved animal study protocol is allowed without IAEC approval.
6. Staff/Person involved in animal study should be trained and experimental procedures to be performed under the supervision of qualified person (Principal Investigator or Veterinarian).
7. Regular monitoring by Investigator is to be done throughout the course of the study.
8. Separate colour cage cards are used for monitoring of the health status of the animals:
 - Yellow colour cage cards: for rats
 - Pink colour cage cards: for mice
 - White colour cage cards: for animals under quarantine

Contact Us:**Dr. Saba Naqvi****Faculty Co-ordinator (Animal Facility)**

National Institute of Pharmaceutical Education and Research,
Bijnor-Sisendi Road, Sarojini Nagar,

Near CRPF Base Camp, Lucknow (UP)- 226002

Email: caf@niperrbl.ac.in

Dr. Lakshay Mahajan**Veterinary Officer**

National Institute of Pharmaceutical Education and Research,
Bijnor-Sisendi Road, Sarojini Nagar,

Near CRPF Base Camp, Lucknow (UP)- 226002

Email: caf@niperrbl.ac.in

Contact no.: 9906299320