

Standard operasjonsprosedyre: Tour of the MDU

SOP nr: 1-02

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Forfattet av: Frøydis Lie Kilmer

Revidert av: Helene Tandberg

Godkjent av: Espen Engh

## TOUR OF THE MDU

### 1.0 PURPOSE

- 1.1 All new users and users who have not been active at MDU for the last five years must be given a tour before access can be granted.
- 1.2 Familiarise the users with the facility
- 1.3 Familiarise users with the routines and rules implemented at KPM
- 1.4 Improve communications between users and staff at KPM
- 1.5 Promote a safe work environment
- 1.6 Ensure good hygiene practices
- 1.7 Ensure good routines in the case of fire or other emergencies

### 2.0 DISTRIBUTION OF RESPONSIBILITY

- 2.1 The head of the research group/ user apply for access to KPM through KPMs homepage: [KPM – Section of Comparative Medicine - Institute of Basic Medical Sciences \(uio.no\)](#).
- 2.2 The user sends KPM documentation on approved course in laboratory animal science.
- 2.3 Operation coordinator arranges guided tours and informs the room manager.
- 2.4 The room manager ensures a completed tour and a declaration is signed by the user and archive this declaration.
- 2.5 The room manager informs the person in charge of access to KPM that the user has completed the tour.
- 2.6 The user must contact the staff at KPM if he or she has any additional questions or needs additional training.

### 3.0 PROCEDURE

#### Prior to tour

- 3.1 The room manager schedules a time for the tour with the user. This SOP is sent to the user to read prior to the tour.
- 3.2 Everyone who works with animals must be tested for allergies and asthma every other year and be vaccinated (e.g. Tetanus minimum every 10 years).



- 3.3 The Barrier and DU044 has the highest health security level. The MDU, including the dirty side of DU-007, has the second highest health security level. The Conventional Unit, along with KPME and any other external laboratories, has the lowest health security level. **Important: one cannot go to DU-007 after being inside KPME.**
- 3.4 It is prohibited to move from an area with a lower health security level to an area with a higher health security level on the same day. You must have taken a shower and changed clothes before access can be granted the following day.
- 3.5 You are not allowed to enter the department if you keep rodents or rabbits as pets at home.
- 3.6 Due to potential multi resistant bacteria, you cannot enter the facility if you have recently been hospitalized abroad. Further, access to KPM is not allowed if you have a severe cough/throat infection, diarrhoea known to be contagious or with unknown cause, or symptoms of COVID-19 or other highly contagious diseases. The necessary quarantine time will be set by the head of KPM, depending on your symptoms. Contact your immediate superior and the head of KPM if you have any questions regarding this. Please contact KPM to verify when new access can be granted.
- 3.7 Isoflurane and other hazardous drugs and chemicals are in use in the facility. You need to inform your immediate superior as soon as you know you are pregnant or suspect pregnancy, or if you are planning pregnancy (men and women). Due to exposure to allergens and hazardous drugs and chemicals, pregnant women are recommended not to enter KPM without first undergoing an risk assessment regarding personal protective equipment (PPE).
- 3.8 Training in Science Linker (SL) and how to order animals is given by KPM and can be booked by e-mail. All actions must be updated in SL. SL, the cage card and the content of the cage must match at all times.
- 3.9 Trolley can be picked up either on the dirty or clean side. All trolleys on the clean side must be disinfected before use. A container with ethanol hangs by the trolleys.
- 3.10 Trolleys on the dirty side should be disinfected before use. The trolley should be washed with soap and disinfected after use. You can bring these trolleys into animal rooms, but not into the clean side.
- 3.11 All equipment, chemicals etc. that the user wishes to bring into the facility must be cleared with KPM well in advance. Proper training is required to follow correct procedures.
- 3.12 For smaller equipment (disposable equipment, etc.), this can be brought into the department via the small sluice or DU-007. Virkon should be used and always red, let it set for 20 minutes before bringing the equipment inside. Pre-mixed Virkon that has lost its colour should be poured into the marked waste container. For new virkon mix 1 tablet with 500ml of water.
- 3.13 If large amount of equipment or a bigger item is to be brought inside, sufficient time is required to ensure its disinfection. Make contact with KPM well in advance to get this equipment into the department
- 3.14 Equipment that cannot be disinfected cannot enter the department, example of this is paper. Sheets can be printed inside the department.
- 3.15 Liquid nitrogen (not provided by KPM) must be handled in DU-007 and proper PPE must be worn.
- 3.16 Animals are dispatched every morning, through DU-007, free of charge. The default time for delivery is 09:00. The cages must be picked up by 09:30. A request must be made in Science Linker by 13:30 at the latest on the previous day and the "do date" must be specified. Deviations from this time (e.g. holidays) will be informed via e-mail.

- 3.17 The user must communicate to KPM all information relevant to the experiments to be conducted. See SOP «14-02 Requirements for starting an experiment at IMB». KPM must inform the user group of relevant information about the animals discovered during inspection etc.

#### **Attire and movement**

- 3.18 Perfume is not allowed in the facility. Mobile phones, key cards etc. must be placed in a zip-lock bag which you must spray with 70 % ethanol. Other valuables can be locked in the lockers outside the entrance to the MDU. The user provides his/her own padlock for the lockers. The zip-lock bag should never be opened inside the facility.
- 3.19 You must change all your clothes, except your underwear. Place your clothes in the cabinet and place your shoes on the shelf. Put on new socks while stepping over/sit on the “restrictive threshold”. Glasses must be rinsed with soap and water, as ethanol will damage the glasses.
- 3.20 You must wash your hands with soap and water and wear proper PPE before entering the MDU. Minimum PPE consists of socks, shirt, trousers, hair net, surgical mask, long gloves (inner gloves) covering sleeves and crocs. Blue scrubs are reserved for KPM staff. Personal items must be cleared with KPM.
- 3.21 Make sure the inner gloves are pulled well over the sweater. If the mouse/rat should come into contact with the skin, it must be terminated.
- 3.22 You enter the MDU through the clean corridor (minimum amount of allergens) and move to the right. Users cannot access the clean corridor from the animal room. You exit the facility, or re-enter the clean corridor, through the dirty corridor (with allergens) and the air shower. Change gloves when entering clean corridor.

#### **Evacuation in case of fire/emergency**

- 3.23 Consult the “Evacuation plan” diagram for an overview of the room plan, emergency exits, fire alarms and fire hose/CO<sub>2</sub> extinguisher.
- 3.24 The facility is divided into fire cells and is protected with a sprinkler system. The user must be familiar with the three emergency exits: one in the clean corridor (DU-010), one in the dirty corridor (DU-025) and one beyond the air shower (DU-001c), see Appendix 1. The user must also know where to find the fire alarms, door-lock buttons and fire hoses.
- 3.25 Everyone is responsible for his/her own evacuation in the case of fire/emergency. If an experiment is in progress, the user must consider whether the animals should be terminated if their welfare is in risk or if there is any chance of the animal escaping. However, taking the time to terminate animals must not put the users’ own health and safety at risk. Close all cages with animals inside and turn off oxygen/air/propane/ CO<sub>2</sub>.
- 3.26 The meeting point in case of an evacuation is located by the garage/containers outside the “Enhet for drift” (Operations Unit). The user must study the “Evacuation Plan for MDU” in case of a fire/fire alarm, see Appendix 2. The evacuation plan can be found on the [KPM homepage](#).
- 3.27 There are two first-aid kits in each corridor and one in DU-028. These contain cooling gel, eye and wound wash, disinfection napkins, dressing for wounds, Band-Aid and a CPR mask. There is additional eyewash in each lab. There are intercoms in the labs, animal rooms and corridors.

**Animal room and handling of cages and other equipment**

- 3.28 Autoclaved equipment stored in the clean corridor is marked with an autoclave tape that has black stripes. NB! Some clean, but not autoclaved, equipment might be temporarily stored by the autoclave, marked "Not autoclaved - do not use"!
- 3.29 The innermost gloves must be disinfected when entering the animal room or the gloves must be discarded and new gloves put on. Outer gloves (usually shorter blue) must be put on before handling any cages and animals. Dirty gloves must be thrown and new put on before handling clean equipment. The innermost pair is used to handle door handles, computers etc.
- 3.30 The floor is considered the dirtiest part of the room. If something falls on the floor, it must be either disinfected or thrown away. Animals must be terminated.
- 3.31 Keep doors closed if you open any cages so that if animals escape from the cage, they cannot get out of the room.
- 3.32 The user must be informed about the different types of cages, the limits regarding the number of animals per cage according to the size and species of animal, and about the different types and sizes of water bottle to fit the different cages. Note: some 1800 cages have bottles with a ball inside the nozzle, when changing the bottle keep the nozzle.
- 3.33 The user must know how to move the cage in and out of the rack in the proper way, so that the cage is properly connected to the ventilation, how to open and close the cage, how to properly position the food basket, how to close the filter cover, what side of the filter has to face downwards, and how to properly close the hatch on 1800- cages.
- 3.34 The animals must be given a sufficient amount of food and water to last for at least the next day, bedding, a sufficient amount of paper and an igloo/tunnel. Any deviation from this must be supported by the FOTS and be clearly stated on the cage card. Animals must be conscious and in good condition before leaving the room. Animals being used in an experiment must be given a green cage card with the relevant information.
- 3.35 One rack is one separate unit. Users must not move cages between racks without first alerting KPM, as the various racks may vary in health status. However, users are permitted to take animals from different racks for experiments.
- 3.36 The function of the sentinels is to monitor the health status of the rack. Health monitoring results are posted on the KPM homepage. The status of the room (SOPF, SPF, Conventional) is posted on the entrance to the animal room.
- 3.37 The LAF bench and computer in the animal room are mainly for the use of KPM staff. There are computers in the dirty corridor for the users. The user must book a workbench in a lab via SL or use a mobile changing station when working with animals.
- 3.38 The user may use the LAF bench inside the animal room for a short length of time, for example when transferring animals to a new cage, when the LAF bench is not in use by KPM staff. The bench must be cleaned with soapy water and disinfected with 70% ethanol after use (use safety glasses and keep air flow on max).
- 3.39 In order to prevent personnel and the environment being exposed to allergens and potential pathogens, **users and staff must not open cages inside the animal room without using a LAF bench or a mobile changing station.**

**The transport of animals and exiting/re-entering the animal room**

- 3.40 There is a trolley outside the room in the dirty corridor for the transport of animals. Animals must be transported using a trolley. Users must clean and disinfect the trolley before returning it. Trolleys can also be found in the clean corridor. These have to be disinfected with 70% ethanol before being used to transport animals or clean equipment.
- 3.41 You must remove your outer gloves before exiting the room. Disinfect the innermost gloves with 70% ethanol. Put on new outermost gloves inside the laboratory and discard these before exiting the laboratory. Disinfect your inner gloves and put on new gloves when you return to the animal room.
- 3.42 Dirty cages should be placed on the shelf outside the dirty side of the washery. Cadavers are placed in the deep freezer in the dirty corridor.

**Laboratories and equipment for users**

- 3.43 Cabinets with a lock can be reserved by sending an email to KPM ([komparativ@medisin.uio.no](mailto:komparativ@medisin.uio.no)). There are cabinets in the laboratories and more cabinets and shelves in the corridor. No equipment is to be stored on any workbenches unless this is cleared with KPM in advance. Mark equipment and cabinet with the name of the group.
- 3.44 The fume hood (picture 1) is perfect for the use of chemicals and animals since it prevents the release of hazardous substances and allergens onto the operator and room. The exhaust is connected to ventilation and the air supply is unfiltered air coming from the room.
- 3.45 The extractor arm fume hood (picture 2) protects the operator and the room (exhaust connected to ventilation) while working on the bench.
- 3.46 The safety cabinet class 2 (picture 3) provides protection for the operator, product and the room with a high efficiency particulate air filter (HEPA- filter). The air supply to the cabinet and the air coming back into the room (from the top of the cabinet) is HEPA filtered. The safety bench is well suited when using microorganisms that one does not want to get into the ventilation such as bacteria and viruses.
- 3.47 Extra protection, such as an apron/laboratory coat, protective glasses, gloves and specific chemical mask is recommended when working with hazardous drugs and chemicals. Kimtech Purple Nitrile Xtra gloves provide protection from certain chemicals.
- 3.48 After work is completed, all equipment must be put away and all surfaces cleaned and disinfected according to instructions. Sweep the floor.
- 3.49 Gas used in the labs (propane, CO<sub>2</sub>, O<sub>2</sub>, compressed air) must be properly turned off before you leave the room.
- 3.50 Room DU-008A is reserved for working with toxic substances and where the quarantining of animals is necessary. Working with toxic substances, where toxins are excreted by the animals, is not allowed outside of this area. These experiments must be clarified with KPM well in advance. Thorough risk assessment must be in place.
- 3.51 All handling of hazardous drugs or chemicals that do not require animals to be in quarantine, is subject to strict routines regarding HSE and hygiene in order to prevent exposure to personnel and other animals. NB! Change gloves and prevent contamination on the outside of animal cages and other equipment!

- 3.52 The chemical cabinet in DU-028 is meant for all chemicals that need to be stored underneath ventilation. You may store certain hazardous chemicals but always consult the SDS on how to store your chemical, and make sure it does not affect the other chemicals in the cabinet.
- 3.53 Radioisotopes are to be handled in the PET/CT area: DU-034, DU-035, DU-031 and DU-028B. Such experiments are subject to an extensive risk assessment. Commencement of experiments must be coordinated with KPM and Oslo Imaging and Therapy Laboratory (OITL) well ahead of time.

#### End of tour

- 3.54 The room manager ensures that the user is informed of the mandatory SOP's under "Basic package of SOPs for users" ([Basic package of SOP's for users - Institute of Basic Medical Sciences \(uio.no\)](https://www.uio.no/medisinske-basalfag/komparativ-medisin/sop-for-brukere)). The user is responsible for keeping up to date with relevant SOP's.
- 3.55 The user is encouraged to ask any additional questions at the end of the tour. Repeat reviews on handling and restraining procedures and the use of equipment belonging to KPM are provided free of charge.
- 3.56 The user signs a declaration to confirm that they have received training in the department's routines and that they undertake to follow these routines, see Appendix 3. The declaration is scanned and filed under «Opplæring->opplæring av nye brukere->signert egenerklæring».
- 3.57 Gloves, hair nets, zip-lock bags and surgical masks are for single use only and must be discarded after use. P3 masks can be labelled with the user's name and used for up to eight hours.
- 3.58 Used clothes are placed in the laundry baskets outside the locker room. If you are coming back to the facility the same day you can place your clothes (except socks) on the shelf in the wardrobe.
- 3.59 Used socks must be placed in the laundry basket in the locker room.
- 3.60 In case of an emergency after hours, you can call KPM's security telephone ("Vakttelefonen") on 90056382. This number is also in use during working hours and will transfer you to room manager.
- 3.61 In the case of problems related to access afterhours, you can call UiO's Security Operation Centre on 22855007.

KPM:

E-mail: [komparativ@medisin.uio.no](mailto:komparativ@medisin.uio.no)



Tel: 90056382 (24/7)



<https://www.med.uio.no/imb/tjenester/komparativ-medisin/>

UiO Security Operation Centre:

Tel: 22855007 (24/7)

## 4.0 HEALTH, SAFETY AND ENVIRONMENT (HSE)

Kemetyl technical ethanol 96%	CAS no	Pictogram	Hazard statements	Precautionary statements
Ethanol	64-17-5	 	H225 Highly flammable liquid and vapour H319 Causes serious eye irritation	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P370 + P378 In the case of fire: Extinguish with carbon dioxide (CO <sub>2</sub> ), foam, powder or water.

Rely+ On Virkon	CAS no	Pictogram	Hazard statements	<a href="#">Precautionary statements</a>
Pentapotassium bis(peroxymonosulphate) bis(sulphate)	70693-62-8	 	H315 Causes skin irritation	P102 Keep out of the reach of children. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P262 Must not come into contact with the eyes, skin or clothing. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 IF IN EYES: Rinse carefully with water for several minutes. Remove contact lenses if used and easy to do. Continue rinsing. P311 Call a POISON CENTRE or doctor/physician. P501 Dispose of contents/container in accordance with local regulations.
Malic acid	6915-15-7		H318 Causes serious eye damage.	
Sulphamidic acid	5329-14-6		H335 May cause respiratory irritation	
Sodium dodecylbenzenesulfonate	25155-30-0		H412 Harmful to aquatic life with long-lasting effects.	
Dipotassium peroxodisulphate	7727-21-1		EUH208 Contains dipotassium peroxodisulphate. May produce an allergic reaction.	

- 4.1 Everyone who works with animals must be tested for allergies and asthma every other year and be vaccinated (e.g. Tetanus), if necessary, at UiO's Occupational Health Service Unit ("Bedriftshelsetjenesten"/BHT).
- 4.2 All procedures regarding the handling of hazardous drugs and chemicals must be evaluated by means of a proper risk assessment.
- 4.3 Everyone using the facility must have adequate training to ensure the use of proper clothing and protective gear.
- 4.4 Everyone who handles animals must have adequate training and practice to ensure the proper handling of animals.
- 4.5 Everyone must be familiar with the Chemical Manager (Eco Online) and Safety Data Sheets (SDS) for the chemicals they may be exposed to. KPM can provide Safety Data Sheets for the chemicals belonging to KPM.
- 4.6 Everyone must be familiar with the evacuation plan in case of a fire/fire alarm.

## 5.0 EQUIPMENT AND MAINTENANCE

- 5.1 Socks, trousers, shirts/overalls
- 5.2 Crocs or other footwear
- 5.3 Gloves, hair net and mask
- 5.4 Zip-lock bags

## 6.0 HISTORY OF EDITING

- 6.1 14.01.2021 (Frøydis Kilmer)
- 6.2 Revised 18.01.2023 (Helene Tandberg)

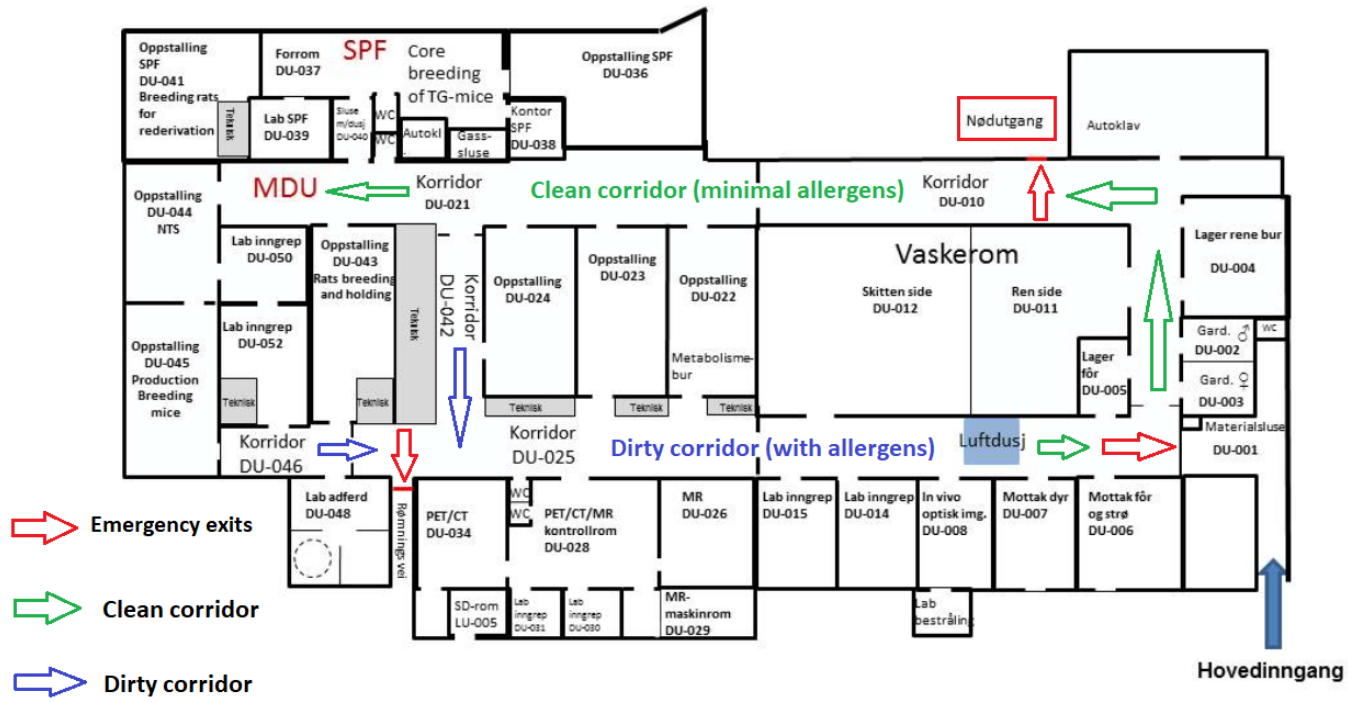
## 7.0 REFERENCES

- 7.1



Appendix 1

Romplan ny dyreavdeling



## Appendix 2

<b>UiO • Avdeling for komparativ medisin</b> <b>Forsøksdyravdeling</b>		
<b>Evacuation plan MDU at KPM</b>		Side: 1 av 1
Utarbeidet av: Frøydis Kilmer, Tone Fadum, Thanh Tham Pham og Nicoline Kongsten.	Godkjent av:	Godkjenningsdato: Utgave: V1

This procedure describes the evacuation plan in case of fire/fire alarm for all personnel in the MDU at KPM. The purpose of the procedure is to ensure the safety of people and to prevent GMO from escaping into the wild.

The head of KPM is responsible for the training of all personnel at KPM and for documenting that training has been carried out. The group leaders are responsible for the training of their respective employees. All visitors are responsible for familiarizing themselves with the emergency exits. Note that in the animal rooms and laboratories there will only be a visual warning, not a sound warning.

### **In case of fire / fire alarm**

The following instructions are to be followed as long as long as doing so does not pose a threat to life and health:

1. Personnel may attempt to extinguish a fire with a water hose or CO<sub>2</sub> appliance.
2. If the fire cannot be extinguished, the nearest manual fire detector must be triggered.
3. Call the fire department at 110.
4. Close any open doors and evacuate immediately!
5. Everyone must evacuate in case of a fire alarm and everyone is responsible for his/her own evacuation.
6. Any open cages containing animals must be closed before evacuation.
7. Any experiments must cease immediately. The termination of animals must be considered. NB! Animals in anesthesia must not be able to wake up and escape from the facility.
8. If any gases, like propane or oxygen is in use, close the outlet.
9. Employees evacuate or go to the fire panel in DU-001c to see where the alarm is triggered.
10. The emergency switch for the air shower must be activated during evacuation.
11. The "floor contact person" goes to the fire panel and reads off the affected room number. The alarm site must be investigated if the alarm has been triggered in the MDU.
12. Employees at KPM encourage anyone in the immediate vicinity to evacuate.
13. The meeting point outside is behind the wall by the containers at the loading dock.
14. Personnel are not allowed to re-enter the building until instructed to do so over the loudspeaker.
15. The "floor contact person" stays behind to clarify the situation with the Estate department.

#### **Evacuation**

**Option 1:** Evacuation via locker rooms

**Option 2:** Evacuation via marked emergency exit in the dirty corridor, DU-025 (by PET/CT )

**Option 3:** Evacuation via marked emergency exit in the dirty corridor, DU-001c (reception)

**Option 4:** Evacuation via marked emergency exit in the clean corridor, DU- 010. NB! Only in case of visual fire and / or smoke development



Picture 1: Fume hood

<https://kilab.no/produkter/kategori/avtrekkskap/>



Picture 2: Extractor arm fume hood

<https://makitech.no/met-1000-50-avtrekksarm-tak>



Picture 3: Safety cabinet class 2

<https://kilab.no/produkter/kategori/laf/>

## Appendix 3

**Training of users of the Department for Comparative Medicine, IMB, UiO****Declaration:**

I, (name in capital letters) \_\_\_\_\_

with this confirm that I have received training about the rules and regulations at the Department for Comparative Medicine. I commit to follow these rules as well as keep myself updated on any changes. (Standard operating procedures (SOP's) have a date of validity reflected in the SOP on the KPM homepage).

I agree to inform the responsible veterinarian and the room manager about the start of new experiments and provide all relevant information on the welfare of animals affected by the experiment.

**I have completed the tour in:**MDU KPMe Conventional **User:**

Date and place:

Signature:

**KPM:**

Date and place:

Signature: