

Standard operasjonsprosedyre: Laboratories at KPM

SOP nr: 18-01

Opprinnelig dato: 22.11.2018

Revidert dato: 26.07.2023

Gyldig til dato: 26.07.2025

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LABORATORIES AT KPM

1.0 PURPOSE

- 1.1 To prevent the import of undesirable microorganisms or parasites.
- 1.2 To prevent contamination between animals and between animals and personnel.
- 1.3 To ensure that all KPM users have space for their equipment.
- 1.4 To ensure that all KPM users have a suitable place to work.
- 1.5 To ensure that KPM is a safe place to work.
- 1.6 To ensure that the laboratories are clean and tidy.
- 1.7 To ensure that equipment is available when needed.
- 1.8 To ensure that equipment, drugs and chemicals are stored and discarded according to the regulations.

2.0 DIVISION OF RESPONSIBILITY

- 2.1 You must inform your immediate superior as soon as you know you are pregnant or if you are planning pregnancy (men and women). Pregnant women are recommended not to enter KPM due to exposure to allergens and hazardous drugs and chemicals or without an extensive risk assessment and the use of proper personal protective equipment (PPE).
- 2.2 Any hazardous procedures carried out in a lab at KPM must be evaluated. An HSE declaration must be submitted to KPM before a new experiment is approved. The user is required to read SOP "14-02 Requirements for starting an experiment at KPM and KPMe" (can be found at our [homepage](#)) before commencing any experiments.
- 2.3 The users must inform KPM about the equipment they need to bring into the facility and how much storage space they need.
- 2.4 The users must inform KPM of the drugs and chemicals they store at KPM. All equipment, drugs and chemicals belonging to the user must be labelled by the user with the name of the group/user, date of when it was stored and registered in Eco Online.
- 2.5 All equipment, drugs and chemicals belonging to KPM must be labelled by KPM.
- 2.6 KPM and users must make sure that all drugs and chemicals are stored according to the regulations.
- 2.7 KPM, in collaboration with the user, will map the needs of the user and plan which lab is best suited for each individual user.
- 2.8 KPM is responsible for making sure that the standard equipment in each lab is available when needed.
- 2.9 The user must ensure that proper training has been received before using equipment belonging to KPM. KPM will, upon request, provide training in the use of equipment belonging to KPM.
- 2.10 Users must book a workspace inside Science Linker in the desired lab before work is commenced.



- 2.11 Users are responsible for wearing any protective gear required by the planned procedures.
- 2.12 Users must clean up after themselves and leave the lab in good order for the next user.
- 2.13 Any gas outlets must be closed after use (propane, CO₂, O₂, compressed air).
- 2.14 The users must remove equipment, drugs and chemicals that are no longer in use or have expired. Any hazardous chemical waste produced by the user must be disposed of by the user in the room for hazardous waste outside KPM (illustration 1).
- 2.15 KPM will go through all fridges and freezers during summer to throw away old drugs and chemicals, an e-mail with information will be sent in advance to all kpm-users.
- 2.16 Any HSE breaches must be reported in UiOs deviation system by the user or KPM.
- 2.17 KPM checks the labs every Friday. KPM refills equipment and disinfects workbenches, door handles and sprays bottles. KPM empties trash and replaces containers for hazardous waste when needed.
- 2.18 Trygg Renhold empties the trash and cleans the floors weekly and carries out a thorough cleaning of the lab once a year.

3.0 PROCEDURE



- 3.1 Any equipment, drugs, chemicals and biological material/virus that the user wants to bring into the facility must be cleared with KPM well in advance. All equipment must be sterilized or disinfected. Larger amounts of equipment and bulky equipment require time for planning due to sterilization requirements.
- 3.2 KPM will give the user a chain lock/key for the cabinets in the laboratories and hallway. No other chain locks/keys are allowed. KPM must have access to the cabinets for inspections, for servicing the doors and to empty the cabinets after previous users. All cabinets and drawers in use must be marked with the name of the user group.
- 3.3 No personal equipment is to be stored on any work surface, unless this has been approved by KPM, but should be stored in a cabinet or on a shelf - this is important for maintaining good hygiene. KPM will remove to a nearby shelf any equipment stored on workbenches without prior approval.
- 3.4 Any personal equipment that needs a permanent set-up occupying a KPM area must be cleared with KPM in advance and will be made available for all users.
- 3.5 No drugs or chemicals are to be stored on any work surface, fume hood or safety benches. Chemicals and drugs must be stored according to the regulations in a marked cabinet, in the chemical cabinet in DU-028 (illustration 2) or in a fridge/freezer.
- 3.6 A workspace must be booked in SL (Science Linker) before work commences. You may only book the space for the time needed. Routine checks will be carried out by KPM to ensure that booked workspaces are in use and that workspaces in use have been booked by the user.
- 3.7 Equipment must not be moved between labs. A list of standard lab equipment is to be found in each lab. The user should contact KPM if in need of any equipment, if the lab is not in order or if he/she has any general questions regarding the lab.
- 3.8 Some equipment is owned by KPM. This equipment is for everyone to use, handle it with care and notify KPM if any maintenance is needed.
- 3.9 In the major laboratories (lab DU-014, DU-015, DU-050 (SOPF) and DU-052 (rats)) there is Isoflurane anaesthesia devices that is owned by KPM. Everyone is responsible for their own Isoflurane. Please



inform KPM if there is any problems with the devices. A manual for the device is found inside the lab (see sop 15-01 Anaesthesia with Isoflurane at our [homepage](#)).

- 3.10 Use two layers of gloves inside the animal rooms and laboratories. The outer pair is used to handle cages, animals etc. The inner pair is used to handle door handles, spray bottles etc. Dirty gloves must be thrown away and new ones put on before handling clean equipment.
- 3.11 Any hazardous procedures to be carried out at KPM must be cleared with KPM before any experiments are commenced. The fume hood (picture 1) prevents the release of hazardous substances to the operator and the room (exhaust connected to ventilation).
- 3.12 Any use of toxic substances that may accumulate in the animals must take place in DU-008A (illustration 3) and the animals must be housed there. This must be approved in advance by KPM.
- 3.13 Isotopes are to be handled in the PET/CT area (DU-034, DU-035, DU-031 and DU-028B), see illustration 3. An extensive risk assessment is required and experiments must be coordinated with KPM well in advance.
- 3.14 The extractor arm fume hood (picture 2) protects the operator and the room (exhaust connected to ventilation).
- 3.15 The safety cabinet class 2 (picture 3) provides protection for the operator, product(s) and the room by means of a high efficiency, particulate air filter (HEPA).
- 3.16 Extra protection, such as an apron, protective glasses, proper gloves and a proper mask, is recommended when working with hazardous drugs and chemicals. Kimtech Purple Nitrile Xtra gloves provide protection from certain chemicals. Safety glasses are available in the laboratory.
- 3.17 Equipment and work surfaces must be cleaned with soapy water and disinfected with 70% ethanol after use. Hazardous waste, such as sharps and remains of chemicals or cell samples, must be placed in the yellow container found in the lab. Old chemicals and drugs must be placed in the proper room for hazardous waste. Ordinary trash, including paper contaminated with blood, faeces and urine, must be placed in the ordinary waste bin.
- 3.18 Pens and other items that might have been touched with soiled gloves must be disinfected with 70% ethanol. The floor must be swept. Any gas outlets must be properly turned off after use.
- 3.19 Cadavers should be placed in a closed bag and placed in a yellow container for hazardous waste in the cadaver freezer in the dirty corridor. Empty cages should be placed outside the dirty side of the washery.
- 3.20 KPM checks the lab every Friday to refill standard equipment and to make sure that the gas outlets are closed and that the lab is clean and tidy. Yearly tidying of labs normally happens during summer, an e-mail will be sent out to all KPM-users in advance with information.



4.0 HEALTH, SAFETY AND ENVIRONMENT (HSE)

Kemetyl technical ethanol 96%	CASno	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 case of fire: Extinguish with carbon dioxide (CO ₂), foam, powder or water.
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Chemical	CAS no	Pictogram	Hazard statements	Precautionary statements
Isoflurane*	26675-46-7	 	H319: Causes serious eye irritation H361: Suspected of damaging fertility or the unborn child H373: repeated or prolonged exposure may cause damage to organs	P280: Wear protective gloves/protective clothing/eye protection/face protection. P260: Do not inhale dust/fumes/gas/mist/vapours/spray.

*See SOP 15-01 for the use and handling of isoflurane.

Klorin* (Bleach)	CAS nr	Piktogram	Faresetninger	Sikkerhetssetninger
Natriumhypokloritt løsning	7681-52-9		H290; Kan være etsende for metaller. H314; Gir alvorlig etseskader på hud og øyne.	P101 Dersom det er nødvendig med legehjelp, ha produktets beholder eller etikett for hånden. P102 Oppbevares utilgjengelig for barn.
Natriumhydroksid	1310-73-27727-21-1		H400; Meget giftig for liv i vann. H411; Giftig, med langtids virkning for liv i vann.	P234 Oppbevares bare i originalemballasjen. P260 Ikke innånd gass/tåke/damp/aerosoler. P280 Benytt vernehansker/ verneklær/ øyevern/ ansiktsskjerm. P301+P330+P331 VED SVELGING: Skyll munnen. IKKE fremkall brekning.

			EUH206 Må ikke brukes med sammen med andre produkter. Kan frigjøre farlige gasser (klor).	P301+P310 VED SVELGING: Kontakt umiddelbart et GIFTINFORMASJONSSENTER/ en lege. P303+P361+P353 VED HUDKONTAKT (eller håret): Tilsølte klær må fjernes straks. Skyll eller dusj huden med vann. P305+P351+P338 VED KONTAKT MED ØYNENE: Skyll forsiktig med vann i flere minutter. Fjern eventuelle kontaktlinser dersom dette enkelt lar seg gjøre. Fortsett skyllingen. P310 Kontakt umiddelbart et GIFTINFORMASJONSSENTER/ en lege. P405 Oppbevares innelåst. P501 Innhold/holder leveres til kommunalt mottak for farlig avfall
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* See SOP 12-14 for the use of Klorin (bleach)

- 4.1 All procedures relating to the handling of hazardous drugs and chemicals must be evaluated. A HSE declaration must be submitted to KPM before any experiments are commenced.
- 4.2 Isoflurane and other hazardous drugs and chemicals are in use in the facility. Pregnant women are recommended not to enter KPM due to exposure to allergens and hazardous drugs and chemicals.
- 4.3 Everyone must have adequate training to ensure that the proper clothing and protective gear is worn.
- 4.4 Everyone should be familiar with the Eco Online and safety data sheets for the chemicals they may be exposed to.
- 4.5 Any drugs or chemicals that need to be stored in a well-ventilated area and that are not reactive must be stored in the cabinet for chemicals in DU-028.
- 4.6 Everyone who handles animals must have adequate training and practice in order to ensure that the animals are handled properly.

5.0 EQUIPMENT AND MAINTENANCE

- 5.1 All equipment must be labelled with the name of the user/KPM.
- 5.2 The user must report to the person responsible for the lab if they discover that any equipment belonging to KPM is out of order.
- 5.3 Standard equipment in a lab may vary according to the type of lab. There is a list in each lab showing the standard equipment for that particular lab.

6.0 HISTORY OF EDITING

6.1 Created 22.11.2018 by Frøydis Lie Kilmer

6.2 27.11.2020: Frøydis Lie Kilmer

6.3 26.07.2023: revised (Helene Tandberg)

7.0 REFERENCES



Illustration 1: Waste room for hazardous waste etc.

Romplan ny dyreavdeling

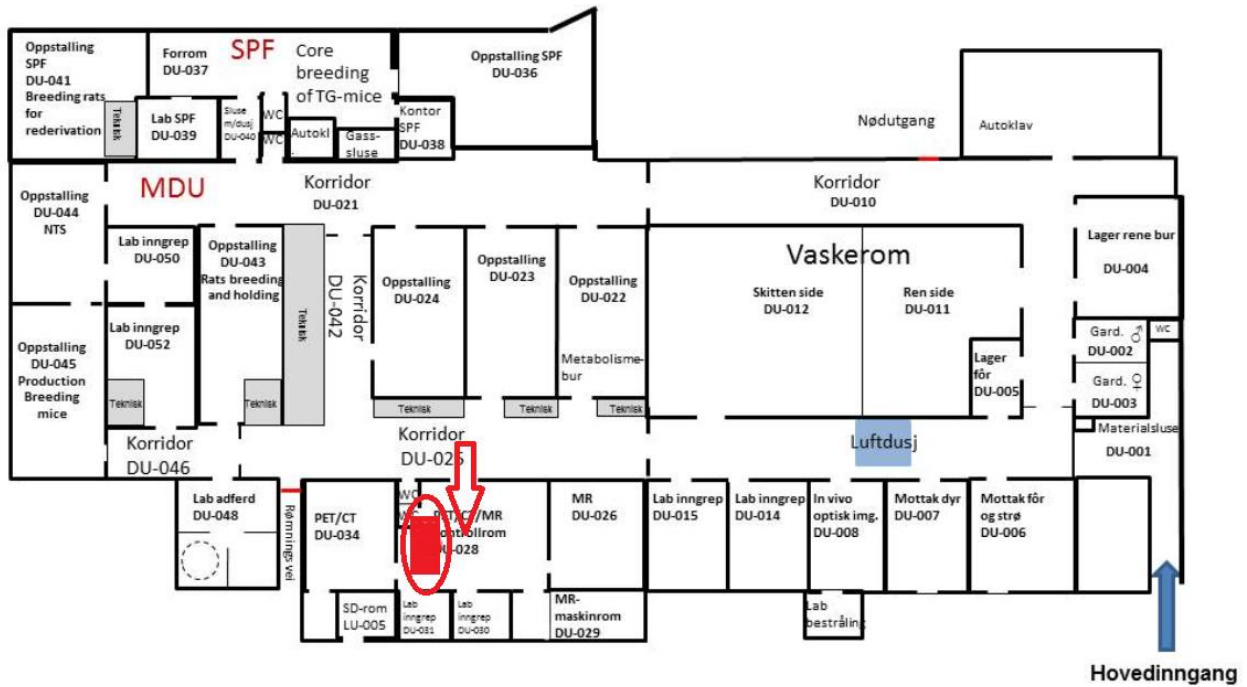


Illustration 2: Location of chemical cabinet

Romplan ny dyreavdeling

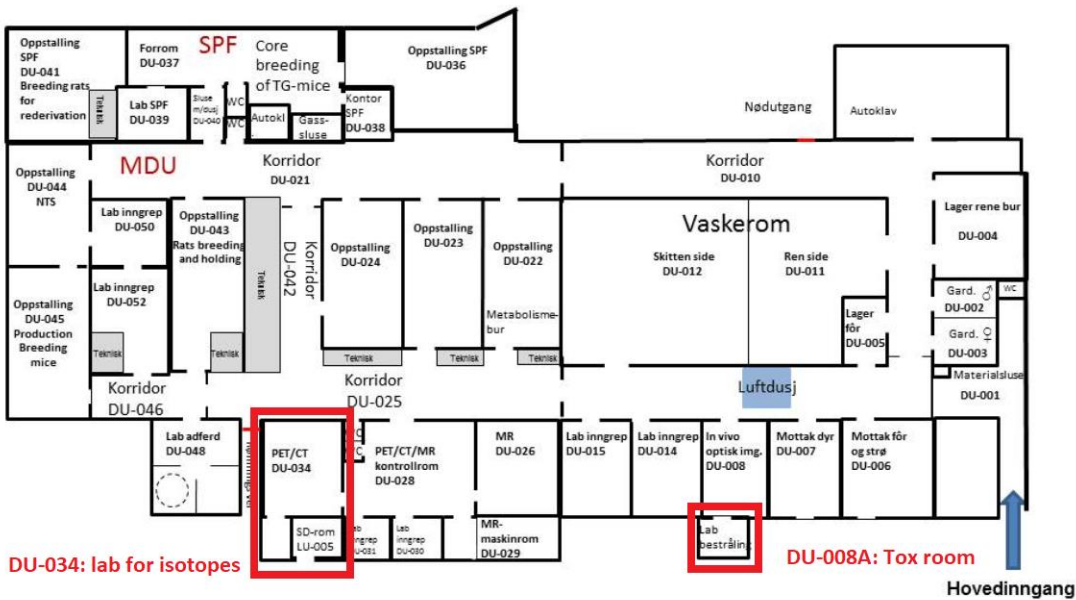


Illustration 3: DU-034 (PET/CT): Laboratory for isotopes

DU-008A: Tox room



Picture 1: Fume hood



Picture 2: Extractor arm fume hood



Picture 3: Safety cabinet Class 2