

Standard operasjonsprosedyre: Doxorubicin Hydrochloride

SOP nr: 12-04

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## DOXORUBICIN HYDROCHLORIDE

### 1.0 PURPOSE

- 1.1 The purpose of this procedure is to ensure that use of Doxorubicin in experiments protects investigators, staff at KPM and the environment from exposure to Doxorubicin.
- 1.2 Doxorubicin is commonly used in chemotherapy treatment in the clinic. This compound may cause genetic defects and cancer and may damage fertility and foetuses.
- 1.3 Doxorubicin is probably carcinogenic to humans, is a mutagen and teratogen and is highly irritating to the eyes, skin, mucous membranes and upper respiratory tract. There is inadequate evidence of carcinogenicity in humans but sufficient evidence of carcinogenicity in animals. OVERALL EVALUATION: Group 2A: The agent is probably carcinogenic to humans.

### 2.0 DRUG/COMPOUNDS DESCRIPTION AND TREATMENT

- 2.1 **Pharmacology:** Doxorubicin (trade name Adriamycin) is an antineoplastic chemotherapy drug, a powder or liquid, clear, orange-red in colour. The mechanism of action of Doxorubicin is as a topoisomerase inhibitor. Doxorubicin has a triphasic plasma clearance of 12 minutes, 3.3 hours, 30 hours. Mean: 1–3 hours. The initial distribution half-life of approximately 12 minutes suggests rapid tissue uptake of Doxorubicin, while its slow elimination from tissues is reflected by a terminal half-life of 20 to 48 hours. The drug is extensively metabolized in the liver to yield an active metabolite (doxorubicinol) and a number of inactive metabolites (aglycones). Within 7 days, more than 50% of an injected dose is excreted in the bile, but only 5%–10% of the drug is excreted in the urine. In both wild and genetically engineered mice, a 5 mg kg<sup>-1</sup> dose level of doxorubicin was well tolerated. Low plasma concentrations of all metabolites were detected in both types of mice.

#### 2.2 **Hazard identification:**

Doxorubicin Hydrochloride CAS- no.: 25316-40-9

Hazard code:

H350 May cause cancer.



2.3 **Treatment:** The mice are treated with one intraperitoneal dose (3 mg/Kg) of Doxorubicin per day for 3 consecutive days (Monday, Tuesday and Wednesday).

2.4 **Quarantine rules:** All additional precautions described in this procedure apply to the quarantine period, starting with the first injection of the compound. During the quarantine period, animals, cages and waste must be treated and disposed of as hazardous. The animals are moved to the regular animal room after end of quarantine period, if they are not terminated.

*The quarantine time below is based on  $6 \times t_{1/2}$  for the elimination of Doxorubicin and depends on the number of days of subsequent doses given.*

Number of days with repeated injections	Serum $t_{1/2}$	Quarantine time ( $6 \times t_{1/2}$ )
3 (alternate day injections).	Estimated - 6 h	12 days after the last injection

### 3.0 DISTRIBUTION OF RESPONSIBILITY

#### KPM's responsibility

- 3.1 The Head of Department at KPM is responsible for obtaining and disseminating relevant information about the experiment and the substances in use to the PMSK (personnel with special screening responsibility), HSE coordinator and room manager well ahead of the scheduled commencement of the experiment.
- 3.2 The HSE coordinator at KPM ensures that the SOP is tailored to KPM and personnel at the dirty side of the washery and that protective equipment for said personnel is in place before the start of the experiment. The HSE coordinator follows up on HSE for the duration of the experiment.
- 3.3 The room manager ensures that the room is equipped, that the cages are marked in compliance with current rules and that laboratory coats are replaced every Friday.
- 3.4 The HSE coordinator ensures that the washery is properly equipped.
- 3.5 The Head of Department ensures that all personnel at KPM are well trained.
- 3.6 The PMSK follows up on animal welfare during the experiment.
- 3.7 KPM checks the cages daily and changes water bottles if necessary. In exceptional circumstances, KPM changes cages and euthanizes sick animals at weekends (if the user is not available).
- 3.8 If any deviations are discovered by KPM, the user, Head of department at KPM and PMSK must be contacted.
- 3.9 The room manager moves the animals to the regular animal room at the end of the quarantine period.
- 3.10 Employees at KPM are responsible for handling animals and equipment in accordance with the current guidelines.

### Responsibility of the research group

- 3.11 The research leader is responsible for the dissemination of this SOP, product information and safety data sheets (SDS) to KPM. An HSE declaration has to be submitted to KPM. All information about the experiment must be communicated to KPM well ahead of the start of the experiment. The research leader cannot initiate the experiment until KPM gives the signal that everything is ready.
- 3.12 The investigator listed as the main applicant in the FOTS application is responsible for the overall experiment. The main applicant is responsible for instructing all other persons listed on the FOTS and ensuring that they comply with this SOP.
- 3.13 The research leader is responsible for identifying the appropriate respiratory protection for the substance in use and for ensuring that protective equipment and other equipment needed by their employees are in place before the start of the experiment.
- 3.14 The research group is responsible for preparing solutions for injection, administering the substance, terminating/euthanizing animals, changing cages and monitoring the health of the animals. A score form (available in a folder in the animal room) must be filled out as required.
- 3.15 All solutions stored at KPM must be properly marked with the compound name, CAS number and pictograms and must be stored according to regulations. KPM must be informed of all substances used and stored at KPM.
- 3.16 The research leader is responsible for identifying a proper decontaminant, if any, and for purchasing this and sponges for decontamination purposes.
- 3.17 The persons listed on the FOTS application are responsible for the final disposal of the generated hazardous waste.

## 4.0 PROCEDURE

- 4.1 It is mandatory for all animals in experiments involving hazardous substances, where there is a quarantine time involved with the animals due to excretion of hazardous substances or if food or water contains hazardous substances, to be housed in DU-008A (Tox- room). All handling of animals and substance must take place in the fume hood in DU-008A.
- 4.2 DU-008, DU-008A and the fume hood in DU-008A must at all times be equipped with the following equipment:

#### DU-008:

- Protective coat placed in a marked bag
- Full facemask with a proper filter, placed in a closed bag marked with name of owner (filter must be replaced according to instructions and use)
- Kimtech Purple Nitrile Xtra gloves (or other suitable gloves)

#### Room DU-008A:

- Autoclaved water bottles

- Autoclaved cages
- Paper tunnels/ paper houses
- Extra paper for environmental enrichment
- Disposable liners
- New prefilters for ventilation unit
- Cadaver bags
- Garbage bags (black and white)
- Yellow bags
- Large, durable bags
- Cable ties
- Masking tape
- Permanent marker
- Paper towels
- Spray bottle with soapy water
- Spray bottle with 70% ethanol
- Sponges for decontamination after spills
- Large container for hazardous waste
- All equipment in DU-008A must be marked "DU-008A (Tox- room)".

The fume hood in DU-008A:

- Kimtech Purple Nitrile Xtra gloves (or other suitable gloves)
- Large container for hazardous waste
- Cannula box
- Sponges

**4.3 Protective equipment and procedure:** All handling of hazardous substances and animals under quarantine must be carried out in the fume hood in DU-008A (see picture 1) and in compliance with the requirements for protective equipment, as listed below.

1. Required personal protective equipment (PPE): laboratory coat, full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves.
2. The surface of the fume hood must be covered with blue paper toweling or absorbent pads.
3. Spray bottles and other clean equipment should only be handled with inner, non-contaminated gloves.
4. After use, roll up the blue paper toweling/ pads, place in a dual waste bag closed with a knot/cable tie and discard as hazardous waste in the fume hood. Discard outer gloves as hazardous waste in the fume hood and put on new gloves.
5. Clean the work surface with soapy water and spray with 70% ethanol. Place paper towels in a dual waste bag, close with a knot/cable tie and discard as hazardous waste in the fume hood. Discard outer gloves as hazardous waste in the fume hood.

6. The yellow waste bags containing bedding etc. must be placed in a durable bag, closed with a cable tie, labelled as hazardous waste and placed in the storage room for hazardous chemicals (see illustration 1).
7. Bags with dirty cages and bottles must be placed on the shelf outside the dirty side of the washery.
8. Place the coat in a marked bag in DU-008.
9. Clean the facemask and place in a sealed, marked bag in DU-008.
10. Disposed of inner gloves as hazardous waste.
11. Wash hands thoroughly with soap and water.

**4.4 On commencement and completion of experiments:** All cages used in these experiments are to be placed in DU-008A no earlier than three days before experiment is started and must be placed in a clean cage containing a disposable liner. Cages must be set as “Experimental” in Science Linker (SL). Information regarding the experiment must be added by the user under “Notes” on the cage card in SL and a new cage card printed out. This information must include a short description of the experiment, the substance in use, expected complications or phenotypes, special dietary needs, contact person and phone number. A label stating the experiment start date and the end of quarantine date must be attached to the cage. At the end of the quarantine period, the cage must be changed (no liner needed). The cage is then moved to the regular animal room.

#### **4.5 Decontaminating after unforeseen spills:**

1. Required personal protective equipment (PPE): laboratory coat, full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves.
2. Soak up spills with a sponge. Place sponge in a dual waste bag and close with a knot/cable tie. Dispose of as hazardous waste in the container in the fume hood. Discard outer gloves as hazardous waste and put on new gloves.
3. Clean surface twice with paper soaked in water from a clean water bottle. Place paper in a dual waste bag and close with a knot/cable tie. Dispose of bag as hazardous waste in the container in the fume hood. Dispose of gloves as hazardous waste in the container in the fume hood. Place the bottle in a dual waste bag labelled “Hazardous/Farlig” and close with a knot/cable tie. Put on new gloves.
4. If lab coat or other clothing has been contaminated with Doxorubicin Hydrochloride, remove at once and place in a dual waste bag labelled “hazardous”. Place the bag outside the dirty side of the washery. Wash affected skin with water and contact a doctor.
5. Place the bag with the bottle outside of the dirty side of the washery.
6. Place the coat in a marked bag in DU-008.
7. Clean the facemask and place in a sealed, marked bag in DU-008.
8. Disposed of inner gloves as hazardous waste.
9. Wash hands thoroughly with soap and water.

4.6 **Injecting animals:** This task is carried out by the user.

1. Required (PPE): laboratory coat, full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves.
2. Discard outer gloves as hazardous waste if you have handled Doxorubicin Hydrochloride. Put on new gloves.
3. Place the cage in the fume hood.
4. Open the lid of the cage. Inject the animals. Change the cage if necessary (see section 4.7). Only put the lid on if the animals are stressed/very active, this to reduce the contamination on the outside of the cage.
5. Discard outer gloves as hazardous waste and put on new gloves before closing the lid and placing the cage back in the rack.
6. **Follow the routine described from point 4 in section 4.3.**

4.7 **Changing the cages during the quarantine period:** This task is carried out by the user. If the researcher is not available at all during the weekend, KPM will change cages if water leakages and the like occur.

1. Required (PPE): laboratory coat, full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves.
2. The surface of the fume hood must be covered with blue paper toweling or absorbent pads.
3. Disposable liners must be used. A paper tunnel/ house is placed on the new liner, in addition to bedding and paper from the clean cage. Add more paper if needed and transfer some dirty paper to prevent fighting among males. The new cage should not have a basket, since the basket from the animal's former cage will be transferred to its new cage.
4. Close the hood as far down as possible.
5. Open the clean cages and empty the contents onto a disposable liner. Put the disposable liner back in the clean cage.
6. Open the dirty cages and move the feed basket and animals over to the clean cage. Top the food basket. Only put the lid on if the animals are stressed/very active, this to reduce the contamination on the outside of the cage.
7. Liners with dirty bedding, all other content and feed must be disposed of in a dual yellow waste bag labelled "Hazardous/Farlig" and closed with a cable tie. Place temporarily on the floor if the bag is full. If not full, leave in the fume hood for later use.
8. Place dirty cages, with empty food baskets, and bottles in a dual waste bag labelled "Hazardous/Farlig" and close with a knot/cable tie. Place temporarily on the floor.
9. Dispose of the outer gloves in container for hazardous waste inside the fume hood and put on new gloves.
10. Put the lids on the clean cages and place cages in the rack.
11. **Follow the routine described from point 4 in section 4.3.**

**4.8 Termination of animals:** The cages should only be opened in the fume hood in DU-008A.

1. Required (PPE): laboratory coat, full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves.
2. Remove the lid of the cage. Terminate the animal by dislocating its neck. Place the cadaver in a dual cadaver bag closed with a knot/ cable tie.
3. If the cage is empty, disposed of liners with dirty bedding, other content and feed in a dual yellow waste bag labelled "Hazardous/Farlig" and closed with a cable tie. Place temporarily on the floor if the bag is full. If not full, close the bag and leave in the fume hood for later use.
4. Used water bottles and cages with empty food baskets must be placed in a dual waste bag labelled "Hazardous/Farlig" and closed with a knot/cable tie. Place temporarily on the floor.
5. **Follow the routine described from point 4 in section 4.3.**
6. Place the cadaver in the freezer.
7. Dispose of gloves as hazardous waste.
8. Wash hands thoroughly with soap and water.

**4.9 Daily inspection:** Daily inspection is carried out by KPM. Cages should only be opened in the fume hood.

1. Required (PPE): laboratory coat, a full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves. Protective gear can be found inside DU-008
  2. Collect dirty bottles in a dual waste bag marked "Hazardous/Farlig" (the bottles contain plain water) and close the bag with a knot or a cable tie. Dispose of the outer gloves as hazardous waste and put on new gloves.
  3. Place new bottles in the cages.
  4. Inspect the animals. Do not open the cages if not necessary. Contact the user if any discrepancies.
  5. Discard of outer gloves.
  6. Place the coat in a marked bag in DU-008.
  7. Clean the facemask and place in a sealed, marked bag in DU-008.
  8. Disposed of inner gloves as hazardous waste.
  9. Wash hands thoroughly with soap and water.
- Used laboratory coats are gathered up every Friday, placed in a dual bag labelled "Hazardous/Farlig" and placed outside the dirty side of the washery.
  - Cleaning the ventilation unit: Prefilters are disposed of as hazardous waste every third week. Do not vacuum the prefilters! Use dual gloves. Carefully remove the prefilters from the ventilation unit, place in dual yellow bags and close with a cable tie. Dispose of as

hazardous waste in the fume hood. Dispose of the outer gloves as hazardous waste and put on new gloves. Place a new prefilter in the ventilation unit.

#### 4.10 Cleaning cages, bottles and other equipment:

1. **Required (PPE):** protective coat, full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves.
2. Wash the cages, bottles and other equipment in the usual way.
3. Place contaminated bags in a new bag, tie with a knot and dispose of bags as hazardous waste. Discard outer gloves as hazardous waste and put on new gloves.
4. Clean all surfaces that have been in contact with equipment with soapy water. Place contaminated paper in a new bag, tie with a knot and discard paper and gloves as hazardous waste.
5. Rinse the coat in water, let dry and send to be cleaned.
6. Clean the facemask and place in a sealed, marked bag.
7. Dispose of inner gloves as hazardous waste.
8. Wash hands thoroughly with soap and water.

1. **Equipo de protección personal requerido:** bata protectora, máscara completa con sus respectivos filtros y dos pares de guantes Kimtech Purple Nitrile Xtra que puedan cubrir parte de las mangas de la bata. También se puede usar otra marca de guantes de las mismas características.
2. Lave las jaulas, botellas y el resto del equipo en la manera acostumbrada.
3. Ponga las bolsas contaminadas dentro de bolsas nuevas, ciérrelas haciéndoles un nudo y tirelas en el lugar destinado para desechos peligrosos. Quítese el par exterior de guantes, tírelos como desecho peligroso y póngase un nuevo par de guantes exterior sobre el par interior.
4. Limpie con agua enjabonada todas las superficies que han estado en contacto con el equipo. Meta los papeles sucios en bolsas nuevas, ciérrelas con un nudo; quítese el par exterior de guantes y tírelos juntos a las bolsas en el recipiente para material peligroso.
5. Enjuague la bata, déjela secar y envíela a la lavandería
6. Limpie la máscara y guárdela en la bolsa destinada específicamente para ella.
7. Quítese su par interior de guantes y tírelos en la basura peligrosa.
8. Lávese bien las manos con agua y jabón.

#### 4.11 Handling contaminated/used mops and coats:

1. **Required (PPE):** protective coat, full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves.
2. Thoroughly rinse the clothes/mops with water in the sink. Dry the clothes before they are delivered to the laundry.



3. Place contaminated bags in a new bag, tie with a knot and dispose of bags as hazardous waste. Dispose of outer gloves as hazardous waste.
  4. Clean all surfaces that have been in contact with mops and coats with soapy water. Place contaminated paper in a new bag, tie with a knot and discard paper and gloves as hazardous waste.
  5. Rinse the coat in water, let dry and send to be cleaned.
  6. Clean the facemask and place in a sealed, marked bag.
  7. Disposed of inner gloves as hazardous waste.
  8. Wash hands thoroughly with soap and water.
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1. **Equipo de protección personal requerido:** bata protectora, máscara completa con sus respectivos filtros y dos pares de guantes Kimtech Purple Nitrile Xtra que puedan cubrir parte de las mangas de la bata. También se puede usar otra marca de guantes de las mismas características.
  2. Enjuague cuidadosamente las batas y trapeadores en el lavadero (fregadero). Deje secar las batas antes de enviarlas a la lavandería.
  3. Ponga las bolsas contaminadas dentro de bolsas nuevas, ciérrelas haciéndoles un nudo y tirelas en el lugar destinado para desechos peligrosos. Quítese el par exterior de guantes, tírelos como desecho peligroso y póngase un nuevo par de guantes exterior sobre el par interior.
  4. Limpie con agua enjabonada todas las superficies que han estado en contacto con el equipo. Meta los papeles sucios en bolsas nuevas, ciérrelas con un nudo; quítese el par exterior de guantes y tírelos juntos a las bolsas en el recipiente para material peligroso.
  5. Enjuague la bata, déjela secar y envíela a la lavandería
  6. Limpie la máscara y guárdela en la bolsa destinada específicamente para ella
  7. Quítese su par interior de guantes y tírelos en la basura peligrosa.
  8. Lávese bien las manos con agua y jabón.

#### 4.12 Weekly cleaning of the room by cleaning staff:

1. **Required PPE:** laboratory coat, full facemask with a proper filter and dual Kimtech Purple Nitrile Xtra gloves (or other suitable gloves) covering sleeves.
  2. Bring a clean mop to the room. Leave the trolley outside the room. Use a mop rack and cleaning solution located in the room.
  3. Clean the floor as usual.
  4. Place the used mop in a dual waste bag marked "Hazardous/Farlig" and tie with a knot.
  5. Discard the outer gloves as hazardous waste (yellow container in the room).
  6. Place the coat in a bag marked "Farlig" and place outside of the dirty side of the washery.
  7. Clean the facemask and place in a sealed bag marked with your name. Leave the mask in DU-008 (outside of DU-008A).
  8. Disposed of inner gloves as hazardous waste.
  9. Place the used mop outside of the dirty side of the washery.
  10. Wash hands thoroughly with soap and water.
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1. **Equipo de protección personal requerido:** bata protectora, máscara completa con sus respectivos filtros; dos pares de guantes Kimtech Purple Nitrile Xtra que puedan cubrir parte

de las mangas de la bata. También se puede usar otra marca de guantes de las mismas características.

2. Deje la carretilla de limpieza fuera del cuarto y meta solo el trapeador (fregona). Use el palo de trapeador y la solución enjabonada que está dentro del cuarto.
3. Limpie el piso de la manera acostumbrada.
4. Meta el trapeador en una bolsa doble, ciérrela un nudo y márkela como “peligrosa/hazardous/farlig”.
5. Quítese el par de guantes exteriores y tírelos en el recipiente amarillo para desechos peligrosos.
6. Meta la bata en una bolsa marcada como “peligrosa/hazardous/farlig” y déjela afuera del lado sucio de la lavandería.
7. Limpie la máscara y guárdela en la bolsa destinada específicamente para ella, y marcada con su nombre. Deje la máscara adentro del cuarto DU-008, afuera del cuarto DU-008A.
8. Quítese su par interior de guantes y tírelos en la basura peligrosa.
9. Deje el trapeador (fregona) sucio afuera del lado sucio de la lavandería.
10. Lávese bien las manos con agua y jabón.


## 5.0 HEALTH, SAFETY AND ENVIRONMENT (HSE)

5.1 **Doxorubicin** is an anthracycline antibiotic with antineoplastic activity. Doxorubicin intercalates between base pairs in the DNA helix, thereby preventing DNA replication and ultimately inhibiting protein synthesis. Additionally, Doxorubicin inhibits topoisomerase II, which results in an increased, stabilized and cleavable DNA-linked enzyme complex during DNA replication and subsequently prevents the ligation of the nucleotide strand after double-strand breakage. Doxorubicin also forms oxygen-free radicals, resulting in cytotoxicity secondary to lipid peroxidation of cell membrane lipids; the formation of oxygen-free radicals also contributes to the toxicity of the anthracycline antibiotics, namely the cardiac and cutaneous vascular effects. Doxorubicin is used to produce regression in disseminated neoplastic conditions like acute lymphoblastic leukemia, acute myeloblastic leukemia, Wilms' tumour, neuroblastoma, soft tissue and bone sarcomas, breast carcinoma, ovarian carcinoma, transitional cell bladder carcinoma, thyroid carcinoma, gastric carcinoma, Hodgkin's disease, malignant lymphoma and bronchogenic carcinoma - in all these conditions, the small cell histologic type is the most responsive compared to other cell types. Doxorubicin is also indicated for use as a component of adjuvant therapy in women with evidence of axillary lymph node involvement following resection of primary breast cancer.

Doxorubicin is probably carcinogenic to humans, is a mutagen and teratogen and is highly irritating to the eyes, skin, mucous membranes and upper respiratory tract. There is inadequate evidence of carcinogenicity in humans but sufficient evidence of carcinogenicity in animals.

OVERALL EVALUATION: Group 2A: The agent is probably carcinogenic to humans.

Chemical with Cas-no.	Pictogram	Hazard statements	Safety precaution statements
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Doxorubicin Hydrochloride 23214-92-8		H350 May cause cancer.	P201 - Obtain special instructions before use. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P308 + P313 - If exposed or concerned: seek medical attention. P405 - Store under lock and key. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
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- 5.2 Pregnant or breastfeeding women must not handle Doxorubicin Hydrochloride, animals treated with Doxorubicin Hydrochloride or equipment that has been in contact with Doxorubicin Hydrochloride.
- 5.3 Cages and animals must always be treated in the fume hood.
- 5.4 Protective equipment when handling animals, inspecting animals and washing equipment: laboratory/protective coat, full facemask with a proper filter and dual Kimtech purple nitrile Xtra gloves (or other suitable gloves) covering sleeves.
- 5.5 Spills are soaked up with a sponge and the area is cleaned with water. The sponge and paper are placed in a dual bag and discarded as hazardous waste.
- 5.6 If liquids are spilt on clothes, the clothes must be removed immediately and placed in a bag labelled "Hazardous/Farlig". The bag must be delivered to the washery. The washery rinses the clothes thoroughly before delivering them to be laundered.
- 5.7 If liquid Doxorubicin Hydrochloride, feed containing Doxorubicin Hydrochloride, water from the bottle or litter from the cage are spilt onto the skin, the area should be washed with soap and plenty of water. Contact a doctor.
- 5.8 If Doxorubicin Hydrochloride gets into the eyes, rinse the eyes thoroughly with plenty of eyewash for at least 15 minutes. Contact a doctor.
- 5.9 All surfaces that have been in contact with animals or cages must be washed with soap water.
- 5.10 All syringes and cannulas etc. must be disposed of in the cannula box in the fume hood.
- 5.11 Cages and their contents and cadavers must be treated as hazardous waste.
- 5.12 Cleaning the ventilation unit: dispose of prefilters as hazardous waste every third week. Do not vacuum the prefilters!

## 6.0 EQUIPMENT AND MAINTENANCE

- 6.1 Fume hood
- 6.2 Kimtech Purple Nitrile Xtra (or other suitable gloves)
- 6.3 Protective coat
- 6.4 Personal full facemask with a proper filter: washed after each use and placed in a sealed bag. Filter cartridges must be replaced when needed.
- 6.5 Sponges

- 6.6 Cadaver bags, garbage bags, yellow bags, durable bags
- 6.7 Containers for hazardous waste
- 6.8 Paper towels
- 6.9 Spray bottle with soapy water and 70 % ethanol
- 6.10 Cable ties
- 6.11 Masking tape
- 6.12 Permanent marker
- 6.13 GM500 cages, 250 ml bottles
- 6.14 Paper houses/ tunnels, paper for environmentally enrichment
- 6.15 Disposable cage liners
- 6.16 Doxorubicin Hydrochloride solution

## 7.0 HISTORY OF EDITING

- 7.1 General content based on SOP "4-001-00 Tamoxifen".
- 7.2 07.05.20: Upgrade on general content and formatting. Cleaning and decontamination of the room added.
- 7.3 29.05.20: 4.9 "Weekly cleaning of the room by cleaning staff" added.
- 7.4 01.05.2020: update regarding decontaminant (Frøydis Lie Kilmer)
- 7.5 28.09.2020: Update after risk assessment; decontamination after spills, transport of dirty equipment to the washery and cleaning of dirty equipment in the washery. (Frøydis Lie Kilmer)
- 1.1 19.01.2021: Spanish translations of part 4.11, 4.12 and 4.13 added (translations by Jorge Rodas Foeller) (Frøydis Kilmer)

## 2.0 REFERENCES

- 2.1 SDS: Doxorubicin Accord 2 mg/ml Concentrate for Solution for Infusion Version 1 - March 2020
- 2.2 <https://pubchem.ncbi.nlm.nih.gov/compound/Doxorubicin#section=Hazardous-Reactivities-and-Incompatibilities>
- 2.3 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2362153/pdf/79-6690019a.pdf>
- 2.4 <http://genesdev.cshlp.org/content/23/7/877.long>



Picture 1: Fume hood

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



Illustration 1: Waste room for hazardous waste etc.