UNIVERSITÄT
BERN

Faculty of Medicine
Department for BioMedical Research

DBMR safety guidelines

This document describes the safety organization of the Department for BioMedical Research (DBMR) and summarizes the guidelines effective in the DBMR. It is distributed to all new employees in the DBMR. The detailed documents and forms can be found on the DBMR homepage www.dbmr.unibe.ch.

Last revision: November 27, 2018

EMERGENCY NUMBERS

Police	117
Ambulance	144
Toxicology Center (Poisoning)	145
Fire brigade (Inselspital)	118/ (3333)
Life-threatening emergencies Inselspital)	9999
Technical incidents (Inselspital)	26666
In case of exposition to untested human blood or tissues:	
Staff physician (8:00-16:30)	22038
Off hours: Emergency Station (physician on duty)	181 7520
In case of injury:	
Emergency Station (physician on duty)	181 7520
For Insel employees only:	
Staff physician (8:00-16:30)	22038
Emergency numbers DBMR:	
Patrick Furer	28787 / 078 676 68 81
If not available:	
Willy Hofstetter	28786 / 077 411 61 55
Robert Rieben	29669 / 079 304 47 51

Information to provide in case of an emergency call:
WHERE did it happen?
WHAT did happen?
HOW MANY injured/affected persons?
WHICH KIND of injuries?
WAIT for questions

ESCAPE ROUTES

Escape routes and emergency exits are labeled with green escape signs. In case of fire, the use of elevators is strictly forbidden. In case of evacuation, all employees of the respective DBMR research location have to meet at a predefined assembly point. For the Kinderklinik, PKT1, AKL and PH4 the assembly points are not predefined, but decided on-site by the fire brigade.

ASSEMBLY POINTS

Division	*Location*
Pathology	Meadow between Psychiatric Clinic and Pavilion 47
MEM	Entrance Pathology building, Murtenstrasse 31
Murtenstr. 40	Entrance Murtenstrasse 50
Murtenstr. 50	Entrance Blood Donation Center, Murtenstrasse 42

FIRST AID

- First aid boxes are located on each floor (MEM and Murtenstrasse 50)
- Defibrillators are available in the following DBMR research divisions:

Division	*Location*	*Responsible persons*
MEM	Main Entrance, Floor B	J. Grosjean, M. Siegrist
Murtenstr. 31	Main Entrance, PathL	
Murtenstr. 40	Main Entrance Floor U1	S. Widmer
Murtenstr. 50	Main Entrance, Floor A	Y. Roschi

- In case of exposure to chemicals (splashes), the contact area should be extensively flushed. Water is an appropriate “flushing fluid” for most cases and affected areas should be rinsed for at least 15 minutes. Contact lens wearers must wear closed chemical safety goggles in all DBMR laboratories, therefore the wearing of contact lenses is not recommended.

- All accidents and injuries (including exposition to human blood or unfixed human tissues) occurring during work have to be reported to safe@dbmr.unibe.ch, with copy to S. Rösselet (silvia.roesselet@dbmr.unibe.ch)
- Due to the proximity of the nuclear plant Mühleberg, potassium iodine tablets are available for all members of the DBMR, in case of a release of radioactive iodine. Tablets have been distributed to the group leaders. Additional packages can be obtained from F. Achermann

MATERNITY PROTECTION

Pregnant and breast-feeding women have to be protected from exposure to ionizing radiation, to pathogenic microorganisms and to hazardous chemicals. A risk assessment should be performed as soon as possible to prevent damage to the unborn child (higher risk during first trimester!). Contact Silvia Rösselet (silvia.roesselet@dbmr.unibe.ch).

SAFETY ORGANIZATION DBMR

DBMR	*OHE**	*Biosafety*	*Chemical safety*	*Radiation safety*	*Anesthetics*
Responsible DBMR	F. Achermann	K. Monastyrskaya	F. Achermann	F. Achermann	A. Bergadano
Deputy I	M. Siegrist	F. Achermann	NA	S. Dolder	C. Detotto
Deputy II	W. Hofstetter	NA	NA	NA	NA
Contact persons in DBMR divisions					
Kinderklinik	F. Achermann	G. Escher	F. Achermann	F. Achermann	NA
Pathology, Pav47	W. Hofstetter	W. Hofstetter	NA	NA	A. Bergadano
MEM	M. Siegrist	K. Monastyrskaya	NA	S. Dolder	A. Bergadano
Erl9a	P. Vermathen	NA	NA	NA	NA
Sahlihaus 1+2	M. Vogel	M. Vogel	NA	NA	NA
Mu40+50	R. Rieben	R. Rieben	NA	NA	NA
Central Animal Facilities	A. Bergadano	NA	NA	F. Achermann	NA
Animal Facilities Mu50	A. Bergadano	NA	NA	F. Achermann	NA
Clean Mouse Facility	J. Kirundi	NA	NA	NA	NA

*OHE: Occupational safety, health protection and environmental safety

ID BADGES

All DBMR members are requested to wear their badge at all times to facilitate the identification of persons unauthorized in the facilities.

BASIC SAFETY RULES

1. Work smart. Work safe
2. Respect the rules and follow the instructions of your supervisor
3. Never pipet by mouth or smell a chemical directly
4. Do not eat, drink or store food in the lab
5. Keep the workplaces clean and tidy. Label all samples and chemicals accurately
6. Handle hazardous chemicals exclusively under the fume hood
7. The use of needles and blades should be limited as much as possible and never recap a needle
8. Wear a lab coat or apron and tie-back long hair. Skirts, shorts, and open-toed shoes are not the right clothes in a lab
9. Depending on the individual risks additional personal protection equipment (PPE) must be worn. Ask your supervisor, which PPE is needed for which laboratory activity
10. Take-off your gloves before using telephones, computers, tap water, door latches, elevators and copy machines. Do not reuse disposable gloves. Wash and cream your hands regularly, especially after taking-off the gloves and before leaving the workplace

SPECIAL SAFETY REGULATIONS

Biosafety

All activities involving pathogenic or genetically modified organisms must be registered with the Federal authorities. Activities involving level 1 organisms are registered as part of a DBMR global notification, while activities with level 2 organisms have to be notified individually. Activities with organisms assigned to biosafety levels 3 and 4 are not possible in the DBMR facilities. Group leaders are responsible for the registration of their activities with the BSO DBMR, K. Monastyrskaya (28776, safe@dbmr.unibe.ch).
Experiments with cells or material of human origin have to be performed in a Biosafety Level 2 (BSL2) cabinet and waste has to be appropriately disposed of. Hepatitis B vaccination is highly recommended when working with material of human origin (Staff physician, Friedbühlstrasse 44c, every Tuesday 1pm – 3pm). Transduction experiments with Lentiviruses and other Retroviruses have to be done exclusively in the dedicated BSL2 lab, MEM D811e. Experiments with clinical samples from Hepatitis viruses (HBV, HCV) infected patients have to be conducted exclusively in the dedicated BSL2 lab, MEM D828. Access to both BSL2 labs will be granted only after proper instructions. Specific SOPs are available.

Radiation safety

As detailed in the DBMR internal directive for handling radioactive materials the most important rules are:

1. Keep radioactive and non-radioactive work separated as far as possible, preferably by maintaining the C-labs solely for radioactive work
2. If the handled radioactivity per experiment or day exceeds the licensing limit LA specified in the StSV, Annex 3 Column 10, the work has to be carried out in a C-lab. Persons, who are working in a C-lab are occupationally exposed to radiation and have to wear a dosimeter
3. If the handled activity per experiment or day is <LA, the work can be done in a clearly delimited area in a normal lab only with the permission of the RSO DBMR, F. Achermann (safe@dbmr.unibe.ch)
4. Report to the local RSO whenever you order radioactive compounds
5. The C-labs have always to be locked
6. Work over a spill tray in a ventilated enclosure
7. Distance yourself appropriately from sources of radiation. Doubling the distance from the source reduces the radiation dose by three quarters
8. Use appropriate shielding for the type of radiation
9. Monitor the working area frequently for contamination control. Clean up spills immediately
10. After completion of work, monitor yourself, wash, and monitor again. Report it to the local RSO, if contamination is found

WASTE DISPOSAL

Biological waste

Solid biological waste has to be discarded in UN 3291 containers (blue with yellow lid). When full, containers must be tightly closed and the lid handle disinfected with 70% Ethanol before disposal.
Liquid biological waste has to be inactivated, either by heat (autoclave) or chemically (1% Virkon S or 10% bleach, for 24h)

Chemical waste

Organic solvents and *liquid* chemical waste are collected using appropriately labeled waste containers. Containers are color-coded in MEM and Pathology (removal by University) or white in Kinderklinik, Murtenstrasse 40/50 (removal by Inselspital). Take care to correctly declare the content.
Solid chemical waste has to be collected in their original packaging cushioned in the provided containers. Content must be precisely declared and be protected from breaking and leaking.

Radioactive waste
Radioactive waste has to be separated by nuclide and combustibility. Waste management is the exclusive duty of the local RSO.

Sharps
Needles, scalpel and microtome blades, glass Pasteur pipettes have to be discarded in Sharps containers, which are then disposed of in a blue container UN 3291 with yellow lid.

Glass
Glassware (rinsed) and histology slides with fixed/inactivated samples should be collected for glass recycling.

CLEANING
Before being brought for washing, glassware must be rinsed to prevent exposure of the cleaning team to hazardous chemicals. Stickers and waterproof labels have to be removed. Chipped glassware must not be brought for washing (risk of injury for the cleaning team), but discarded.

ANESTHETICS
According to the Swiss Narcotics Act it is mandatory to keep a record of the use of narcotics and psychotropic substances. The quantities used each year by the DBMR research groups have to be reported to A. Bergadano (alessandra.bergadano@dbmr.unibe.ch).

RISK PREVENTION

Equipment
Laboratory equipment may represent substantial risks if manipulated improperly. It is therefore mandatory to ask for an instruction before using an instrument for the first time. The list of persons responsible for shared instruments is available under Equipment manager. Instruments listed in the equipment manager system have to be booked before use. Please keep to the reservation time!

Liquid nitrogen
Contact with liquid nitrogen (LN_2) can cause severe frostbite. Wear protecting gloves and goggles or face shield. LN_2 also represents an asphyxiation risk. Nobody should enter an elevator in which LN_2 tanks are transported. Place a warning sign on the tank.

Gas cylinders
Gas cylinders have to be secured with a chain to prevent them from falling.

Spill kits
Spill kits are available in case of biological or chemical spillage. The biological spill kits are located next to the BSL2 labs MEM D811e and D828, to the histology lab MEM E814 and in the BSL2 room H071 of the Animal facilities. Chemical spill kits are located on every floor of all research locations.

On-site transport of samples
To prevent accidents, use a basket or an appropriate box to transport samples. Hazardous samples should be packed in a secondary unbreakable container, with absorbing material for liquids.

Do not hesitate to contact the responsible persons if you have questions!