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| KI-Logo_pos_sv | | Version 5 (December 2018) | | **Document name:** |
| **Reference number /version (optional):** |
| Risk assessment form for blood and other human sample materials (HUMRA) | | | | **Date (year-month- day):** |
| * This form should be used for identification and characterization of risks involved in working with human (and monkey) blood and any other sample material, including primary cell cultures of human origin. * **Note that this form can neither be used for any cultivation of microorganisms (then BARA forms should be used) nor for genetically modified micro-organisms!** * The blood or other human sample materials is be characterized in Part A. Each type of method involving blood or other human sample materials should be evaluated in Part B. Note that more than one form B might be needed for different activities with the same material. B1 applies in the laboratory setting and B2 when performing animal experiments. * Please read KIs [rules for the handling of blood and other human sample materials](https://internwebben.ki.se/sites/default/files/rules_for_the_handling_of_blood_and_other_human_sample_materials_1.pdf) before performing this risk assessment * For chemical risk assessments, see the risk assessment form in "KLARA"   **When finished, print and place this form in the lab so that each researcher can consult it before conducting experiments** | | | | |
| A) CHaracterization of the specimen(s) | | | | |
| **Department:** | | | **Group leader /PI:** | |
| **Room number(s):** Neo, #7362 | | | | |
| **Lab responsible person (if applicable):** Sylvie Le Guyader | | | | |
| **Description of specimen** | Write how the sample was made and which chemicals you will bring to our facility if any.  e.g. cell line grown on a coverslip, fixed in PFA and mounted in Prolong Gold mounting medium on a slide | | | |
| **Source of the specimen** | e.g. mouse fibroblasts | | | |
| **Special properties of the specimen(s)**  **Specific risks to be considered** | The LCI facility is classified at Biosafety Level 2 (BSL2).  You can therefore bring BSL1 (lowest level) and BSL2 samples to the LCI facility. Examples of BSL2 samples are live human tissue or human primary cells, live samples infected with BSL2 pathogens. All fixed samples are downgraded to BSL1.  - Risk of getting hurt with laser light  - Risk of explosion of a Mercury bulb  Write any additional risks associated with your imaging experiment at the LCI:  e.g.  - Risk of infection (e.g. human primary cells and are potentially infected with viruses)  - Risk of spill on the microscope or on the floor  - Chemical risk if you bring chemicals to the facility  - Risk of getting pricked with a needle or cut with broken glass…  Otherwise write: There are no additional risk associated with this experiment. | | | |

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| B1) – laboratory work | | Reference number /version (optional): |
| **General description of the work** | Write only what you will perform at the LCI facility.  e.g. Sample mounting then acquisition of microscopy images | |
| **Method description(s) including type of work (cultivation etc.): Please elaborate** | Write only what you will perform at the LCI facility.  e.g. The sample is placed on the microscope stage then images are acquired | |
| **Which part(s) of the handling possesses the highest risk of infection (e.g. propagation, sonication, centrifugation, use of needles)?** | e.g.: Risk of getting hurt with laser light when moving the sample on the stage while imaging | |
| **Safety procedures to minimize the risk of laboratory infections: e.g. how to avoid splashes and sharp objects** | Laser safety: Lasers at the LCI facility microscopes fire visible or invisible light. Invisible lasers are the 405 nm laser and the multiphoton laser fires invisible light.  - Never tilt your sample when the system is scanning, even if you do not see any light. Otherwise, the sample may act as a mirror and you may be hurt.  Mercury bulb safety: The LCI facility has several Metal Halide lamps which contain Mercury vapours that are highly toxic. It is extremely rare that such a bulb explodes but it does happen (it happened at the LCI in 2018).  - In the event of a Metal halide bulb exploding, an audible sound can be heard, and one can detect a smell of burnt plastic. Everyone should evacuate the room immediately. Place a paper on the door to tell others not to enter. Inform the LCI staff. The room must be ventilated for at least 30 min. Those who have been exposed should wash their mouth to remove potential inhaled Mercury. After 30 min of ventilation, one can work as normal.  If you have identified any Specific risks in section A, come and talk to us. We will discuss how to contain the risk and what should be written in this section.  e.g. All BSL2 samples will be sealed with parafilm and brought to/from the facility in a closed container.  Otherwise, write: There are no additional risks associated with this experiment. | |
| **Expected time of risk for exposure[[1]](#footnote-1):** | e.g. During the entire imaging session (a few hours) | |
| **Handling procedures for the specimen:**  **Protective gloves** Specification of gloves:  If you tick in this box, explain here why.  Gloves are NOT ALLOWED at the facility. The only exceptions are:  - If you are afraid to contaminate your live sample while placing it on the stage. Talk to us about this. We will show you the correct technique to avoid such contamination.  - If your sample is classified as BSL2 and you need to protect yourself from your sample  - If you manipulate clearing solutions near Aurora and you need to protect yourself from the clearing solutions  In those cases, you are anyway only allowed to wear gloves while placing your sample on the stage. You must put on the gloves immediately before and remove/discard them immediately afterwards. Never touch any part of the microscope or computer with gloves. Do not discard gloves in the LCI bins. They are only for paper. Take all your trash with you and discard it according to the KI waste disposal rules.  During the whole method. During parts of the method, which part(s)?  e.g. Gloves warn only when placing the sample on the stage  **Protective clothing**. Please specify:  The LCI facility accommodates BSL1 and BLS2 samples. I will wear a lab coat at all times in the facility.  **Splash protection**. Please specify (e.g. face shield, standing shield, googles):  If you tick in this box, explain here why.  During the whole method. During parts of the method, which part(s)?  **Work in a biological safety cabinet1**  Class 1 During the whole method. During parts of the method, which part(s)?Not applicable  Class 2  During the whole method. During parts of the method, which?Not applicable  **Use of integrated safety devises**  During the whole method. During parts of the method, which part(s)?  An interlock is integrated in each microscope to prevent eye damage by lasers when looking in the eyepiece.  **Other**, please elaborate: | | |
| **Does the method involve hazardous chemicals (including isotopes)?[[2]](#footnote-2)** | No  Yes, which?      , which risk statements?       Does the handling of dangerous chemicals need a separate risk assessment? If yes; name of the risk assessment: | |
| **Liquid waste.**  Please specify type of liquid waste generated[[3]](#footnote-3).  How is liquid waste handled?  Does it contain mixed sources e.g. antibiotics/chemicals that need special considerations? | The bins in the facility are only used to discard cleaning paper.  No  Yes, which?      , how should this be handled? If you tick in the Yes box, write: I will remove all liquid waste I generate from the facility in a close container and will dispose of it according to the KI waste disposal rules. | |
| **Solid waste.**  Please specify type of solid waste generated.  How is solid waste handled? | The bins in the facility are only used to discard cleaning paper (no biological/contaminated waste, no gloves).  I will remove all solid waste I generate (including gloves) from the facility in a close container and will dispose of it according to the KI waste disposal rules. | |
| **Suitable disinfection method of lab area/biosafety cabinet.** | If you identified any risk of infection in Section A, come and discuss with us how to contain the risk.  e.g. The microscope tables are covered with a plastic film to help potential decontaminations. In case of spill, I will immediately notify the LCI staff. The following desinfection procedure should be used: (specify)  Otherwise, write: there are no infection risks associated with this experiment. | |
| **Requirements for the laboratory.** | A lab coat must be worn at all times in the LCI facility. | |
| **Are all personnel working in this lab vaccinated against Hepatitis B?**  **If other relevant immunization is available, are all personnel working in this lab vaccinated?** | Yes  No. Why: e.g. There are no infection risks associated with this experiment.  Yes  No. Why: e.g. There are no infection risks associated with this experiment. | |
| **Emergency procedures (in case of accident, spill, theft etc.)** | If you identify any Specific risk in Section A, come and discuss with us how to contain the risk.  Otherwise, write: there are no risks associated with this experiment. | |
| **Name and phone number of contact person (in case of accident):** | Sylvie Le Guyader, 0737335008  Gabriela Imreh, 0707480761 | |
| **Does the laboratory work follow ‘Specific hygiene measures’[[4]](#footnote-4)?** | Only mandatory lab coat | |
| **How many employees are performing the experiments (or otherwise involved)?** | One. Only the trained user is allowed to perform the experiments described here | |
| **Are all employees educated in the risks of infection and routes of transmission?** | Yes  No, why not? If you identify any risk (above), please come and discuss with us how to contain the risk.  Otherwise, write: there are no risks associated with this experiment. | |
| **Are there employees needing special consideration? E.g. pregnant employees, dish washing personnel, cleaners, and service personnel.** | If you identify any risk (above), please come and discuss with us how to contain the risk.  Otherwise, write: there are no risks associated with this experiment. | |
| **Handling and safety instructions available?[[5]](#footnote-5)** | Yes, which? This document  No, why? | |
| **Other information:** |  | |
| **Name in print. Note! it is recommended that more than one person evaluates the risks** |  | |
| **Group leader, signature.** |  | |

For the relevant legislation, see AFS 2018:4 "Smittrisker”. Supplementary information, containing further guidelines is available at <https://ki.se/en/staff/biosafety>

**This form was composed by the Biosafety Committee at KI.**

**If you have further questions, please read more at** [**https://ki.se/en/staff/biosafety**](https://ki.se/en/staff/biosafety)**, or send an e-mail to Biosakerhet@ki.se**

1. Describe if the work is performed rarely or regularly, for short or long periods. [↑](#footnote-ref-1)
2. Risk statements for dangerous chemicals can be retrieved from the MSDS (material safety data sheet) section 15 or from the bottle/container, for example Flammable, Causes burns etc. [↑](#footnote-ref-2)
3. Waste management and sewage rules at KI can be found at the KI homepage [https://ki.se/en/staff/laboratory-waste](https://ki.se/en/staff/laboratory-waste%20%20)  [↑](#footnote-ref-3)
4. Please see § 14 in [AFS 2018:4](https://www.av.se/arbetsmiljoarbete-och-inspektioner/publikationer/foreskrifter/smittrisker-afs-20184/) [↑](#footnote-ref-4)
5. An example of what must be included in the written instructions can be found at the end of the document ‘[Rules for the handling of blood and other human sample materials](https://ki.se/en/staff/biosafety/)’ [↑](#footnote-ref-5)