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Biomedicum Imaging Unit guidelines for imaging virus infected specimens

General

BIU recognizes that virus infected cells may need to be analyzed using our instruments. For that reason, it is necessary to have a common understanding how such specimens should be safely handled.

What types of virus infected specimens these guidelines cover

These guidelines cover cells that have been infected with replication incompetent lenti-, retro-, or adenoviruses from the Biomedicum Virus Core Facility. If you have any other type non-fixed virus infected specimens, contact BIU before you start using any of the instruments for the specimens.

Registration of users that need to image virus infected specimens

Before you can use our instruments, you need to register by contacting BIU office first by e-mail and then in person. Provide the following information:

- Your name
- Affiliation (lab, department, unit, faculty, university)
- Detailed contact information with room and phone numbers
- Description of your specimens i.e. what cell type and what replication incompetent virus they contain
- Imaging instruments you will use for the specimens described
- Estimated time period for the project

After sending the information, and further discussion with BIU staff, you are allowed to image virus infected cells using the instruments as specified in your pre-registration details.

Please inform BIU once you have finished your described and approved project. Please note that you must register the above details again in case you need to start a separate project.

Guidelines for virus infected specimens

1. Use of an extra container

Do not place virus infected specimen containers (bottles, dishes, chambers etc.) directly on the table or any other surface, except for the microscope stage. Instead, use another clean container to keep the specimens in when not using them for imaging. Biomedicum Virus Core can provide appropriate containers for transportation.

2. Use of gloves

Use of powdered gloves is not allowed in the microscope rooms, as the powder is harmful for the microscope optics. Use double gloves and remove the outer ones in case there is virus spillage. You also must change clean outer gloves prior to any use of the microscopes.

3. Cleaning the microscope after usage

You must clean the microscope stage, and all other components that may have exposed to your infected specimens after your imaging session. Wipe these components with soft paper

February 2015

towels soaked with 2% Barrydin solution in 70% ethanol for disinfection. Use plain 70% ethanol for optical lenses. Barrydin solution is available from the Biomedicum Virus Core.

4. Minor spills

If you notice any virus infected material spills, you should immediately wipe these with soft paper towels. Put the used paper towels in a disposable container that can be tightly closed (e.g. 50 ml Falcon tube) and discard the containers into Biomedicum Virus Core trash cans, so that the contaminated material will be autoclaved. Please see Biomedicum Virus Core link for further instructions http://www.helsinki.fi/fugu/Ordering/biosafety_manual.html.

If the spill is on any optical component parts (objective lens, condenser lens etc.), use lens paper instead of paper towel (dispose in the same way). As above, use 2% Barrydin in 70 ethanol for metal and plastic parts, and plain 70% ethanol for optical lenses. Again, follow the above steps for disposal. Please contact BIU personnel in case you are not sure whether you managed to remove all the spills.

It is your responsibility to make sure that other people will not be exposed to virus infected materials, so proceed with caution and take proper action as not to expose anyone for the potential hazard (e.g. warning notes if you need to leave the room to get help). In particular, you have to ensure that the next user of the instrument will not get in contact with any infected material potentially spilled on the instruments.

5. Major spills and emergencies

In case of a major spill or emergency (a container breaks, a person gets virus infected material on him/ her etc.), you must immediately contact Biomedicum Virus Core for help and decontamination, phone number 02 941 25494. You must also immediately notify BIU so that we can take appropriate action to prevent further staff contamination via the imaging instrument in question. Users are also obligated to make an announcement to the Board for Gene Technology for hazardous emergencies that have happened under their licence.