

Facility Use Guidelines
Regenerative Medicine Core
Microscopy — Biotechnology – Flow Cytometry

These guidelines apply to all users and all instruments and equipment in the facilities comprising the Regenerative Medicine Core at Arizona State University.

General Safety Procedures

- Users must be trained to use any equipment within the Regenerative Medicine Core facility.
- All primary instruments within the core lab require a scheduled appointment for use on iLab [corefacilities.asu.edu].
- DO NOT
 - eat or drink in the lab
 - taste any chemicals or substances you are working with
 - use your mouth for pipetting substances
 - handle broken glass with bare hands
 - pour chemicals down the drain
 - operate lab equipment without training or approval
- Use of equipment within the Cell Culture rooms requires that the appropriate PPE be worn. This includes a lab jacket and gloves.
- Safety glasses, lab jacket and gloves must be worn when working with hazardous materials at the bench top.
- Wash hands before and after doing laboratory work.
- Know the locations and operating procedures of all safety equipment including: first aid kit(s), and fire extinguisher. Know where the fire alarm and the exits are located.
- Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the lab manager or technician ASAP.
- Waste must be disposed in the appropriate container.
 - Biohazardous waste is collected in red bins labeled with the biohazard symbol. This includes items such as plastic tubes, plates, pipettes, pipette tips and gloves.
 - Bio-contaminated solutions are collected in containers which contain 10% bleach.
 - Glass is collected in clearly labeled blue barrels.
 - Sharps must be disposed in specified red containers.
 - Chemicals will be collected in designated bottles that remain close to the area of generations such as the histology table.

Use of Microscopy equipment

- Only users who have been trained and authorized by a facility manager may use any microscope or associated equipment. You must receive training and authorization for each technique used.
- Users must reserve instruments using the iLab on-line reservation system. Your session must be reserved at least one hour before it begins.

- The lenses are delicate and expensive. The following minimum requirements for lens preservation must be met at all times:

- a. Move lenses away from the stage before you begin, after you finish, and when lenses are changed. The lowest magnification objective should be in place when you finish using the microscope.

- b. There are air lenses, oil immersion lenses, and water immersion lenses. Do not allow oil or water to go onto the wrong lens.

- c. Never touch the actual (glass) lens with your fingers, a Kim wipe, or anything except lens paper and appropriate immersion fluid.

- d. Clean the coverslip side of the slide or vessel before imaging.

- e. If anything spills on the microscope, quickly wipe the metal parts of the microscope with a Kim wipe. Immediately report the spill to the facility manager for complete clean up and decontamination if necessary.

- f. Gently remove immersion fluid with lens paper; do not press hard or scrub the lens.

- Do not change hardware or software settings that you are not familiar with.

- No gloves are allowed on the microscopes, accessories, or computer keyboards, clean, bare hands only.

- Always request training for new imaging techniques.

- If you haven't imaged recently or you feel "rusty", request refresher training (free!).

- If you find a microscope dirty, damaged, or non-functional in any way, report it immediately to the facility manager.

- If your images don't look right, ask for help.

- If something breaks or is damaged while you are using the microscope, report it immediately. Honest mistakes promptly reported are not considered a violation of the rules for facility use.

Post-Processing and Data Handling

- Do not tie up the microscopes with image processing. Convert your data to formats that you can process on another computer or use an analysis workstation in the facility.

- Contact facility managers for assistance in image analysis and processing if needed.

- Do not store your data on the imaging computer. Save it to a network drive, Dropbox, or request temporary storage space.

Live Samples

- Prepare your sample in an appropriate BSL1 or BSL2 facility according to applicable safety guidelines.
- All users must have appropriate ASU-approved training before handling live samples in the facilities.
- Wipe the outside of the container with 70% EtOH.
- Transport samples in secondary containment with sufficient absorbent material.
- Check for spills, drips, leaks and treat with 70% EtOH before placing sample onto stage.
- Handle samples with gloves but remove gloves before touching the microscope or its accessories.
- There are limited cell culture facilities available in the core. Live samples may be treated in the biosafety cabinet and temporarily stored in the incubator prior to imaging. The user accepts all risks inherent in using a shared incubator. Keep it clean!
- After imaging, wipe microscope stage and inside of stage-top incubator with Kim wipe dampened with 70% EtOH.
- Remove all live samples from the facility promptly after the last imaging session or dispose of in the provided biowaste receptacles.
- Absolutely no BSL3/4 samples are allowed into the imaging facility.

Radioactive Samples

- No radioactive samples are allowed in the Advanced Light Microscopy Core without prior consultation and approval from the facility manager.
- All users must have appropriate ASU-approved training before handling radioactive samples in the facilities.

Failure to abide by these guidelines may result in loss of imaging privileges.