

USER WELCOME DOCUMENT

SCAC



**Servei de Cultius Cel·lulars,
Producció d'Anticossos i
Citometria**

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The Servei de Cultius Cel·lulars, Producció d'Anticossos i Citometria (SCAC) is available to researchers at UAB, as well as to public or private entities outside of UAB that request it <https://www.uab.cat/ca/servei-cultius-anticossos-citometria>.

The schedule of the SCAC technical staff and the availability of our self-service equipment can be found on our website:

<https://www.uab.cat/ca/servei-cultius-anticossos-citometria/contacte>

1. SERVICE MODE. SELF-SERVICE

Users may use SCAC equipment in self-service mode (with or without technical support) after **specific training** on the equipment.

Once the training is completed, the user may be authorized to use the equipment for which they have been trained.

If the user needs to use complex equipment such as cytometers on an occasional basis, we recommend using the **technical support** mode to ensure high-quality results. In this case, the technician will perform the analysis with the user present during the sample acquisition, so they can address any questions that may arise.

The steps to follow in order to work in self-service mode at SCAC are detailed at: <https://www.uab.cat/ca/servei-cultius-anticossos-citometria/sollicitud-servei>
Section: "1. Working in self-service mode in any of the SCAC laboratories."

1.1. Activities to be developed in Self-Service Mode

The SCAC laboratories are classified as **biosafety level 2**. Therefore, in accordance with current regulations, it is mandatory to **notify all activities conducted in the service** to the competent authority (the UAB biosafety committee). **This notification must be made by the Principal Investigator (PI)**.

Before starting their work, the user must be aware of and communicate to the SCAC staff any safety requirements arising from their activity within our facilities, as indicated in the **SCAC/FOR/0320 User Service Request** form. The service's technical supervisor will inform the user on how to declare their activity so that it can be assessed by the UAB Biosafety Officer.

In cases where the user will be working **with CMR** (Carcinogenic, Mutagenic, or Reproductive Toxins), a prior assessment must be made to determine the necessary containment measures for handling these products. CMR substances are potentially carcinogenic, mutagenic, teratogenic, and toxic to reproduction, so they must be handled at very low concentrations.

SCAC may provide consumable materials to users. These requests should be registered in the **PPMS management system**.

1.2. User training and Authorization

The use of SCAC equipment requires knowledge of its operation, as well as adherence to the operating and maintenance procedures for both the equipment and the facility. Additionally, general knowledge of flow cytometry or in vitro cell culture is required.

Therefore, to authorize a user to use the equipment in self-service mode:

- The user must undergo prior training, conducted by the SCAC technician responsible.
- The SCAC technician will explain the SCAC regulations outlined in this document, which can be found at the following link: <https://www.uab.cat/ca/servei-cultius-anticossos-citometria/normativa>. At the end of the training, the technician will decide whether the user is qualified to work in self-service mode.
- The training will be documented in the **SCAC/FOR/0036 User Training Form**, which is generated in the SCAC database and must be signed by both the user and the technician responsible for the training.
- Users must strictly follow these regulations and will be held responsible for any anomalies that result from improper use of the equipment.

There are two types of training:

1) Users WITHOUT previous experience

Cytometers: The basic principles of flow cytometry will be explained, along with the operation and maintenance of the cytometer to be used. If necessary, the application that the user wishes to carry out will be fine-tuned. A multicolor cytometry practice will be conducted to learn how to adjust the voltages and fluorescence compensation. Additionally, the management of the waste generated and the general regulations of the SCAC will be explained.

Cell Culture: The basic principles of mammalian cell culture will be explained, including the use of laminar flow hoods, the different levels of biosafety that can be worked with in the SCAC, waste management, and the general regulations of the SCAC.

To work in the cell culture and viral vector laboratory (MRB/-109.2), specific training and prior evaluation by the UAB Biosafety Committee are required.

If the user is interested in a type of training not included in the SCAC's defined program, additional practical sessions can be arranged.

We recommend conducting the training with the specific cell type/application that the user will later use for their research activities.

2) Users WITH previous experience

Users with experience in flow cytometry will undergo shorter training to learn the operation and maintenance of the cytometer they will use, as well as waste management and the general regulations of the service. If needed, the application the user wishes to carry out will be fine-tuned. Users with experience in mammalian cell culture will receive training in the use of laminar flow hoods, the different biosafety levels available in the SCAC, and waste management.

The training does not have a fixed price; it will be established based on the technician hours and equipment needed for the training, as well as the consumables used. The duration of the training will

depend on the user's skills and will be determined by the user's needs and the application they wish to develop. The training will be considered complete when the technical supervisor deems that the user is ready to work independently, following the regulations outlined in this document, without jeopardizing the work of other users.

Once authorized, the user will be able to work in the SCAC labs in self-service mode, without supervision from the service staff.

All SCAC laboratory facilities are Biosafety Level 2, and access is restricted to authorized users. For this reason, it is prohibited for an authorized user to grant access to the SCAC to unauthorized users without prior consent from the service staff. Visitor access must be registered on the SCAC/FOR/0164 form, located next to the entrance of the flow cytometry laboratory.

The use of the SCAC facilities and equipment in violation of the regulations described in this document will result in the automatic loss of the user's free access to the service facilities, until they complete the necessary training to be authorized to use them again. **Repeated failure to comply with the regulations will result in the loss of authorization to work in self-service mode in the SCAC.**

1.3. Timetable, Booking and Use of the equipment

The equipment booking in self-service mode will be made directly by the user through the "Book" section in PPMS.

The plate reader will be available without reservation during the service's access hours (which can be consulted in the "Horari autoservei" section: <https://www.uab.cat/ca/servei-cultius-anticossos-citometria/contacte>).

Access to samples stored in the liquid nitrogen tanks is restricted to SCAC staff. **The opening hours for the tanks are: weekdays from 9:00 to 10:00 AM.**

Cancellation of equipment booking:

Flow Cytometers and Cell Sorter

- 24 hours before the scheduled use: NO COST
- Less than 24 hours before the scheduled use: 50% OF THE RESERVATION COST WILL BE CHARGED

Flow Hoods

- 1 hour before scheduled use: NO COST
- Less than 1 hour before the scheduled use: 25% OF THE RESERVATION COST WILL BE CHARGED

EQUIPMENT

- SCAC equipment bookings are made through the PPMS application <https://ppms.eu/uab/?SCAC>, where users can view and book the equipment assigned to them by the service. Until the user is authorized to use the equipment completely independently, the reservation will need to be validated by the technician in charge.
- In addition to booking in PPMS, **the user must register the real use of the equipment in the designated notebooks.**
- The SCAC reserves the right, whenever justified, to modify or cancel equipment reservations and/or restrict access to the facilities.
- The user must be aware of the necessary personal protective equipment (PPE) for the activity they are performing and must use and maintain it properly (blue lab coats for exclusive use in the SCAC, personal protective glasses, gloves, masks, etc.).

In any case, the handling of biological material in SCAC laboratories must be done, at a minimum, using the following EPI: gloves (nitrile gloves are generally recommended), personal protective glasses, and a lab coat for exclusive use in the SCAC (the latter provided by the service).

- Any biological materials not identified with the user's name and content may be removed or discarded without prior notice.
- During sample handling, tasks that contribute to aerosol or splash formation must be minimized: transfers, spills, continuous and rapid pipetting, etc.
- Equipment must remain in the locations where it was installed and cannot be moved or relocated without authorization from SCAC personnel.
- The installation of any **software** on the equipment is not permitted. If the installation of specific software is necessary, it must be authorized by the SCAC technical staff.

FACILITIES

- The equipment in the different laboratories must be handled with the utmost care.
- The doors and windows of the laboratories must always remain closed to maintain proper containment and safety.
- Eating and/or drinking is strictly prohibited in SCAC laboratories.
- To work in our facilities, the use of the following **EPI** is mandatory: nitrile gloves, laboratory glasses, and a blue lab coat for exclusive use in the SCAC (the latter are in the pre-room of the MRB/-107 cell lines laboratory).
- The use of SCAC gloves and blue lab coats is strictly prohibited outside the SCAC laboratories.
- After completing activities, verify that all rooms and areas are properly closed.
- SCAC will assign, whenever possible, space in the laboratory cupboards for users to store their consumable materials, under the following conditions:
 - All material must be identified and organized.
 - CMR products (Carcinogenic, Mutagenic, and Toxic for Reproduction) **must be stored in a box labeled as CMR or with the "C" pictogram for cytostatic.**
 - The storage of flammable products is strictly prohibited.
 - The cabinet is the property of the SCAC, and the assignment of space may be revoked at any time.
- Activities classified as BSL2 are carried out in SCAC laboratories. Current legislation prohibits access to these facilities by unauthorized personnel. For this reason, it is **STRICTLY PROHIBITED** for users to grant **access** to SCAC facilities to **unauthorized personnel** without the express permission of the service. If access is authorized, it will be recorded in the **SCAC/FOR/0164 Visitor Access Authorization Form**, located next to the entrance of the flow cytometry laboratory (MRB/-106).

1.4. Data management and Storage

The user is responsible for the proper storage of their data.

For cytometers, user must export the data daily to the "redscac" network drive, connect to the drive, and download the files generated on the same day they were obtained. Additionally, the user must delete their old files from both the equipment computers and the analysis computer. Images obtained with the microscopes and data from the plate reader are directly stored on the "redscac" network drive. Users are responsible for connecting to the drive and downloading the files

generated on the same day they were obtained. **The connection of USB devices to SCAC equipment is not permitted.**

2. SCAC SAFETY REGULATIONS

The purpose of the information provided below is to offer a set of criteria applicable to the most common types of risks related to the activities carried out within the SCAC facilities.

Workers who are particularly sensitive to specific risks associated with their work and/or women who are pregnant, recently gave birth, or are breastfeeding must report this to the Office of Occupational Health and Safety (OSP).

Generally, the **user's responsibilities** are as follows:

- Do not handle a product without knowing its physicochemical, biological, and toxicological properties. The user must have the safety data sheets (SDS) for all products used in our facilities and provide a copy to SCAC technical staff. Special attention should be paid to the R and S phrases on the labels.
- Follow the procedures and best practices established by UAB and SCAC.
- Be familiar with the facility procedures, the potential hazards of infectious agents and CMR (Carcinogenic, Mutagenic, and Toxic for Reproduction) substances in use, and the emergency procedures.
- Follow the established maintenance, equipment cleaning, and disinfection procedures.
- Report any dangerous situation and/or accident to SCAC personnel.

CHEMICAL RISK

In case of an accident under the following circumstances happens, affected users must follow the UAB emergency procedure document, located in the SCAC laboratories, and immediately notify the technical supervisors. If necessary, they should also contact the UAB Occupational Health and Safety Service (Servei de Prevenció) and/or the UAB Security Service (Servei de Seguretat):

- Explosion
- Fire
- Chemical splashes to the eyes or other parts of the body
- Poisoning (ingestion, absorption through the skin, or inhalation)
- Subcutaneous injection and cuts
- Burns from contact
- Reduction in CO₂ levels
- Reduction in O₂ levels

BIOLOGICAL RISK

Human or non-human primate cell lines generally do not present a risk to individuals working in the laboratory, but they may carry pathogenic microorganisms and, therefore, should be considered potentially infectious.

Therefore, the following biological samples require Biosafety Level 2 containment:

- All samples derived from human tissues and other primates
- All cell cultures carrying viruses and mycoplasmas, as well as cells that have been deliberately infected
- Genetically modified organisms (OGMs) of class 2

Experiments with human cells from the person who will handle them are **STRICTLY PROHIBITED**, as in the event of an accident, the immune system would recognize them as self-cells, and there would be no protection from rejection of the transplanted cells (autologous transplant). Human cells for culture must only be obtained from individuals who are not related to the experimental work. In the event of an accident involving CMR (Carcinogenic, Mutagenic, or Reproductive Toxic) substances or a biological agent, affected users must follow the UAB emergency procedure document, located in the cell culture rooms, and immediately notify SCAC personnel, who must inform the UAB Occupational Health and Safety Area (Àrea de Prevenció).

Genetically Modified Organisms (GMOs) are organisms whose genetic material (DNA) has not been modified by natural multiplication or recombination, but rather by the introduction of a modified gene through specific genetic manipulation techniques or a gene from another variety or species. The nucleic acid that incorporates an external fragment is known as recombinant nucleic acid, and the cells or organisms that have incorporated foreign genes or genetic material are called transgenic organisms or genetically modified organisms (GMOs).

Before starting their activity at the SCAC, **the project leader** (Principal Investigator, in the case of UAB users) **must notify**, through the UAB Biosafety Committee (CBS) application, the activities related to the obtaining or manipulation of GMOs or non-GMOs. **Work in the SCAC cannot begin without approval from UAB CBS.**

For groups not affiliated with the UAB (where the PI does not have a UAB NIU), SCAC staff will inform them of the procedure to follow to obtain this approval.

3. WASTE COLLECTION AND TREATMENT

In each of the **annexes** and in the document **SCAC/IT/0303 SCAC Waste Management (Users)** (<https://www.uab.cat/ca/servei-cultius-anticossos-citometria/normativa>), the **specific management** of the waste generated is detailed based on the type of activity.

Teléfonos de emergencia	
Servei Assistencial	93 581 18 00
Servei de Seguretat	93 581 25 25
Servei de Prevenció	93 581 19 50