User Regulations Core Facility Flow Cytometry CFFC FZI PKZI Building 308A

General information

The Core Facility Flow Cytometry is a facility of the Immunotherapy Research Center in PKZI Building 308A. The manager of the CFFC discusses the experiments and with the users selects the optimal device for the respective problem. In addition to the classic sorting and analysis devices, the CFFC also is equipped with an ImageStream X Mark II for the characterization of cells giving you subcellular resolution. Both sorting and analysis measurements can be carried out as a service by CFFC staff (permanently operator assisted) or independently by the user (trained on the fly).

The head and the manager of the CFFC is authorized to issue instructions to the users and staff in all matters relating to the execution of the test.

Coordination of the CFFC FZI

Management	Manager	Technical staff
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1. Access regulation, device use, appointment allocation

1.1 Access regulation

Access to the CFFC is regulated by an access authorization. The use of the equipment is generally available to all working groups of the University and University Medicine.
A prerequisite for activation of access and use of the device is an instruction by the manager of the CFFC

Guests and cooperation partners of a working group active at UM may also use the equipment if they are permanently accompanied. In any case, the prerequisite is that the CFFC management or its manager has been informed of this and consent has been given in writing.

1.2 Using the cytometers and making appointments

After registration and instruction, access to the CFFC online calendar is granted. Online calendar Access to the is a prerequisite for users to reserve equipment. Appointments for the sorting systems are made via the Sort Request Form, and the appointment request is confirmed by e-mail.

In case of high device utilisation, the maximum measurement duration per user can be limited by the CFFC. The aim of the limitation is to achieve an even and fair distribution of measurement times for different work groups in the event of high demand. The decision on this is the responsibility of the manager and the head of the CFFC.

It is generally possible to use the CFFC equipment outside of regular operation e.g. the weekend. For this purpose, a separate instruction on the use of the devices outside of normal operation by the CFFC manager is required.

2. Devices/Software

The CFFC FZI in the PKZI currently has the following devices and evaluation software:

2.1 Devices

Sorting system:

- BD FACSAria III; 5 lasers, 18 fluorescence channels, single cell storage, sorting and analysis up to and including BSL1

Analysis systems:

- BD FACSSymphony A5 28 fluorescence channels
- BD FACSFortessa with HTS 16 fluorescence channels
- Amnis ImageStreamX Mk II Imaging Flow Cytometer 10 fluorescence channels

2.2 Workstations and programs

- FlowJo, IDEAS, Prism, cellranger

3. Tasks of the CFFC

The CFFC is responsible for a smooth process and the provision of all necessary substances (such as buffers and cleaning solutions).
Other tasks of the CFFC include

- Instruction of users in the respective device systems
- Advice and support (experiment design, panel design, recommendations on necessary controls, recommendations on the use of different device systems depending on the research question, evaluation or instructions for a meaningful evaluation)
- Optimization and adaptation of existing measurement techniques for specific user issues (method development; further development of the CFFC)
- Training seminars for users (e.g. informing users about new methods/developments)
- Granting of user authorizations
- Coordination and scheduling between the users
- System maintenance and expansion, software updates
- Contact with manufacturers and service technicians

Depending on the scope of the project and the user's previous experience, the CFFC Manager decides whether detailed instruction of the users is appropriate or whether the planned measurements will be carried out by the CFFC Manager and/or his employees without further user instruction. The users are obliged to be available during the examinations for possible queries.

4. Obligations and tasks of the users

By using the devices, the following conditions are accepted:

- • The operating regulations must be observed, in particular, anything that disrupts the proper operation of the CFFC must be avoided, the instructions and guidelines of the CFFC staff must be followed.
- Users are obliged to inform CFFC staff comprehensively about safety risks in connection with the test material (in particular pathogenic, infectious, toxic or radioactive properties of the test material).
- Users wishing to study animal models in the CFFC must comply with local animal protection laws and have a valid animal health certificate.
- When working with genetically modified organisms (safety level S1), the legal obligation to keep records is the responsibility of the users. When sorting the modified organisms (safety level S1), the corresponding forms must Formblatt_GO and Formblatt_Z_RP be sent to the CFFC Manager together with the S1_Sort_Request_Form. Work may only be carried out in accordance with CFFC Biosafety:

https://www.cffc.uni-mainz.de/files/2025/03/Biosafety_060325.pdf

- If necessary, the company must its own personnel with the appropriate authorization to carry out the experiments.provide
- In case of substantial scientific input of CFFC staff member co-authorship is mandatory.
- In all cases of CFFC instrument usage **acknowledgement** as follows is required:

  For the use of the **Aria** cell sorting system:
  "We would like to thank the FACS Core Facility CFFC PKZI FZI of the University Medical Center of the Johannes Gutenberg-University Mainz for providing support and instrumentation of FACSAria III funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) - INST 371/44-1 FUGB"

  For the use of the **Symphony**:
  "We would like to thank the FACS Core Facility CFFC PKZI FZI of the University Medical Center of the Johannes Gutenberg-University Mainz for providing support and instrumentation of FACSymphony A5 funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) - INST 371/45-1 FUGB"

  For the use of the analysis system**Fortessa** :
  "We would like to thank the FACS Core Facility CFFC PKZI FZI of the University Medical Center of the Johannes Gutenberg-University Mainz for providing support and instrumentation of FACSymphony A5 funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) - INST 3748-1 FUGG"

  For the use of the **Imagestream**:
  "We would like to thank the FACS Core Facility CFFC PKZI FZI of the University Medical Center of the Johannes Gutenberg-University Mainz for providing support and instrumentation of Imagestream x Mark II funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) - INST 371/43-1 FUGB"

- The costs for the use of the Core Facility are calculated on the basis of the applicable fee schedule. The user shall bear the costs immediately upon receipt of the invoice or the rebooking voucher.

5. Booking rules/cancellation

Reservations must be made via the online calendar or they can be made and confirmed by sending an email request to the CFFC manager. Reserved appointments that cannot be kept by the user must be cancelled as soon as possible and removed from the online calendar, but no later than 24 hours before the appointment, otherwise cancellation fees of 50% will apply.
Reservations must be made in such a way that as many users as possible have access to the devices. Permanent reservations (e.g. all day from Monday to Friday) are not permitted. If the manager gains the impression that "prophylactic" reservations are being made, he can cancel these appointments (after consultation) and issue a ban on use in the event of permanent violations of these rules.

6. User rules

In order to make working on the devices as pleasant, efficient and fair as possible, the following basic rules apply:

- In principle, the applies. first-come-first-served principle However, it is at the discretion of the CFFC manager to postpone dates in consultation with the users (see also points 1 and 5).
- In principle, analyses are also carried out on the sorting systems; however, if there are time overlaps with sorting experiments, the sorting requests take priority.
- Changes and interventions on devices and software may only be carried out by the CFFC management or if they have given their written consent after consultation.
- Each device is accompanied by instructions that list the most important points for operation. In particular, the points mentioned are those that are critical and, if ignored, can lead to system damage or reduce the service life of important elements (laser, etc.).
- The equipment systems must be rinsed and left clean in accordance with the instructions on display, the liquid waste must be disposed of appropriately and empty buffer containers must be left full. The user must check in the online calendar whether he is the last user of the day and, if so, ensure that the device is shut down in accordance with the instructions provided.

  In the event of gross negligence when using the device, access may be blocked and the respective work group leader will be informed. The user is liable for damages caused by gross negligence.

7. User fees

The amount of the usage fees can be found in the separate document “Tariffs”. The usage fees serve to maintain the operation of the Core Facility and are used accordingly. The usage fees consist of the ongoing basic costs for operating the CFFC and the project-specific costs for using the equipment. The project-specific usage costs can be applied for from the DFG (see the DFG's guidelines on equipment usage costs and equipment centers). Fees may also be charged for training courses by CFFC employees on flow cytometry, software, analysis techniques, etc.

8. Data storage

After the measurement, the experiment must be exported to the CFFC server and the complete and correct data transfer must be checked. If the experiment can be successfully restored from the server, the experiment data must be exported as FCS files and completely removed from the cytometer's database.
During the regular database cleanup, which takes place every quarter, all experiments that have not been exported are copied to the user's folders and removed from the database. The resulting risk of data loss due to an experiment that cannot be restored lies with the user. The time required for the export will be charged to the user at €35 per hour.