

Flow cytometer using instructions

2026.07 Revised

Equipment Introduction

1.Model:

BD FACSAriaII_u (Laser ex : 375 or 405 & 488 & 635nm)
BD FACSCalibur (Laser ex : 488 & 635nm)
BD LSR II (Laser ex : 405 & 488 & 635nm)
ThermoFisher Attune NxT (Laser ex : 405 & 488 & 561 & 637nm)

2.Function:

(1) ANALYSIS : including cell surface and cytoplasm analysis

Cell Marker Analysis (Ag-Ab)
Cell Cycle Analysis (DNA content & sub-G1)
Apoptosis and Necrosis
Free Radical (ROS)
Membrane Potential
pH value
[Ca²⁺] analysis etc

(2) SORTING :

General Sorting
Sterile Sorting
Single Cell Sorting ; ACUD (clony : cell/well)

Note:

- ◆ Analysis : pH value and [Ca²⁺] services are currently not formally provided due to specialized experimental requirements; please discuss with technicians in advance
- ◆ Based on the requirements of laser life and instrument resolution, FACSAriaII_u only provides SORTING services in principle, and ANALYSIS service using the Attune NxT or BD LSR II or FACSCalibur. Each instrument is also open for users to board by themselves. Those who are willing can apply to our center. After training and passing the qualification examination, they can use it on their own. (For more information, please contact Center technician)

Place

The ninth floor of the First Medical Building , Core Instrument Center (Room number : 0910)

Opening hours

1. Monday - Friday AM 8 : 30 ~ PM 17 : 00
2. Off-hours or holidays : (Only for certified users)

Please use your personal student ID or identification card to enter and exit by yourself, and do not lend it to others. At the end of the experiment, please make sure to turn off the light and the sensor door.

Application method

Model BD FACSCalibur or Model BD LSR II or Model Thermo Attune NxT

1. Online reservations are fully open for entrusting or self-boarding:
URL: <https://insreservation.cgu.edu.tw/labs/4>
2. How to make an appointment: Please refer to the webpage for details
 - (a) From Monday at AM 9:00, reservation system will be open until next week
 - (b) It is not possible to change or delete the appointment by yourself on the day, please contact the administrator for processing

Note:

- I. In order to reduce the damage rate of instruments and increase research energy, the center holds educational training seminars and practical machine operation training at least once a year. However, those with experimental needs can apply for teaching certification to the instrument manager at any time.
- II. Technical certification standards:
 - The principle of the flow cytometer
 - Preparation of starting
(PBS buffer preparation 、 View of the pipeline 、 description of the sample, etc.)
 - Machine checking (pressure 、 pump 、 laser 、 flow rate 、 machine condition test)
 - The relation of the software and the machine
 - The procedure of cleaning before shut down, and then record the condition of machine
 - Troubleshooting
- III. Those who pass the appraisal must use it more than 10 times or for more than 15 hours during the working hours of the instrument administrator before they can use it during non-working hours. If there is no record of using the equipment within two months, you will need to be re-identified before you can get on the machine again. However, if the user has accumulated more than 100 hours of usage and is very proficient, he or she can provide proof and no further certification is required ! 「 Note: USER is required to prepare supporting information by himself and the center will review it 」

Model BD FACS Aria IIu

1. Online reservations are fully open for entrusting or self-boarding:
URL: <https://insreservation.cgu.edu.tw/labs/4>
2. How to make an appointment: Please refer to the webpage for details
 - (a) From Monday at AM 9:00, reservation system will be open until next week
 - (b) It is not possible to change or delete the appointment by yourself on the day, please contact the administrator for processing
 - (c) If you are entrusted with the machine, please contact the instrument administrator in advance to confirm the experimental content to facilitate the experiment.

Notes:

- I. In order to reduce the damage rate of instruments and increase research energy, the center provides educational training seminars and practical machine operation training held once a year, with four to six people each time. To apply for qualification selection criteria, please contact the instrument administrator.

Attention:

- The training time will be announced by the center about every summer vacation ◦
- Those who accept the operation of trainers, training standards (accudrop beads 20000 NT dollars / EA) must be purchased before training. And then apply for the certification exam to the center within three months. If you need a technician to accompany you on the machine during the training period, you will be charged for the attestation.

- II. Technical certification standards :

- The principle of the flow cytometer
- Preparation of starting
(PBS buffer preparation 、 View of the pipeline 、 description of the sample, etc.)
- Machine checking (pressure 、 pump 、 laser 、 flow rate 、 machine condition test)
- The relation of the software and the machine
- The procedure of cleaning before shut down, and then record the condition of machine
- Troubleshooting

- III. Those who pass the appraisal must use it more than 15 times during the working hours of the instrument administrator before they can use it during non-working hours. If there is no record of using the equipment within one months, you will need to be re-identified before you can get on the machine again. However, if the user has accumulated more than 200 hours of usage and is very proficient, he or she can provide proof and no further certification is required ! 「 Note: USER is required to prepare supporting information by himself and the center will review it 」

Fee principle

1. Charge method :

- ◆ CGU Internal : In each of March, June, September and December, the total cost of every three months will be counted and a detailed list of fees will be set out. After being entrusted by the commission department, we will be transferred to the account.
- ◆ External or Alliance system : If you do not pay for PI research project funding , you will have to pay the bill at the General Services Department.

2. Charge Fee :

(a) sorting service fee

FACS Aria II _u add general boot fee 500 NT/Each , sterile sorting 1000 NT/Each				
Model FACS Aria II _u	Item	Charges fee (NT dollars / per hour)		
		CGU Internal	Alliance system	External
Configuration : 488nm laser 633 nm laser 375 or 405 nm laser software : FACSDiva	Commission services	500	750	1000
	Accompanied by technician	100	Not open	Not open
	Operate by yourself (Certified users only)	100	Not open	Not open

(b) analysis service fee

Model FACSCalibur	Item	Charges fee (NT dollars / per hour)		
		CGU Internal	Alliance system	External
Configuration: 488nm laser 633nm laser software: CellQuest Pro	Commission services	500	750	1000
	Accompanied by technician	500	750	1000
	Operate by yourself (Certified users only)	60	Not open	Not open
Model BD LSR II	Item	Charges fee (NT dollars / per hour)		
		CGU Internal	Alliance system	External
Configuration: 405nm laser 488nm laser 633nm laser software: FACSDiva	Commission services	500	750	1000
	Accompanied by technician	500	750	1000
	Operate by yourself (Certified users only)	60	Not open	Not open
Model ThermoFisher Attune NxT	Item	Charges fee (NT dollars / per hour)		
		CGU Internal	Alliance system	External
Configuration: 405nm laser 488nm laser 561nm laser 633nm laser software: Attune NxT Software	Commission services	500	750	1000
	Accompanied by technician	500	750	1000
	Operate by yourself (Certified users only)	60	Not open	Not open

Sample preparation

1. carrying by yourself :

- (1) 41~53um nylon mesh
- (2) FALCON #2052 12x75 mm plastic tube
- (3) pipets (200~1000ul) & tips
- (4) Flash drive

2. analysis :

it is recommended that the buffer liquid is PBS or binding buffer, and the sample final concentration : $5 \times 10^5 \sim 1 \times 10^6$ cells/ml. Be sure to filter before getting on the machine. Please get on the machine immediately after filtering to avoid pipeline blockage.

3. sorting :

it is recommended that the buffer concentration liquid is PBS or binding buffer plus 0.5~10% FBS. Sample concentration: depending on the cell type, about $4 \times 10^6 \sim 2 \times 10^7$ cells/ml. Also prepare buffer or culture medium solution containing 1x-2x antibiotics.

Precautions

1. Fully commissioned services :

Sorting case : If you need to cancel the reservation, please be sure to notify the technician 2 hours in advance, otherwise it will charge the boot costs. (Note: It takes 1 hours to clean the pipelines and warm-up before getting on the machine. To avoid wasting time, standard beads and laser power, please do not cancel the experiment temporarily)

Analysis case : If you need to cancel the reservation, please notify our center 1 hours in advance, otherwise the fee for the booking period will be charged.

2. Use by yourself (Only for certified users) :

If you be late more than half an hour appointment on the plane, the technician may have to arrange for this time to other people on the plane. If you find that the experimental problems can not be on the plane, please cancel the booking or call the administrator to cancel the booking, if you forget to cancel will be charged for the booking period.

3. If the experiment cannot be carried out smoothly due to improper handling of the sample, the fee will still be charged for this period of use.

4. When equipment malfunctions due to improper use, the laboratory using it will bear the cost of repair.
5. Anyone who violates the usage regulations three times will be disqualified and will not be able to apply again within one year.
6. When an abnormality occurs in the machine, please notify the instrument administrator immediately. If it cannot be handled immediately, please shut down the machine according to the correct procedure and fill in the usage record in detail.

Contact

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