



INSTRUMENT USAGE SHEET

BENCHTOP ANALYZER FLOW CYTOMETER – BD FACSCelesta

General Information

Instrument: Benchtop analyzer flow cytometer – BD FACSCelesta

Manufacturer: BD (Becton Dickinson)

Location:

- Medical Pharmacology Research Center – Biomedical Research Hub, Monte Generoso (ex-Colonia Agricola)
- Via Monte Generoso n°71, Varese
- Floor: ground floor (Laboratory T-S09)

Contacts:

Prof. Franca MARINO (Scientific Contact)

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List of Users:

Dr. Emanuela Rasini

Training Required: No*

* Independent use of the instrument is not permitted.

Internal tickets can be viewed on the intranet page (access with university credentials): <https://intranet.uninsubria.it/areadocumenti/ticket-strumenti-criett-utenti-interni>

The fee schedule for external users can be viewed on the website:

www.uninsubria.it/criett



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“The scientific support from CRIETT centre of University of Insubria (instrument code: XXX) is greatly acknowledged”.

Instrument Code: MIC07

Access Procedure

1. Access to Technical Support (Full Service)

Who: Internal university research groups, external users from other universities and public and private research institutions, and occasional internal and external users.

Modalità: Access is granted by prior arrangement with the designated contacts and with the assistance of dedicated technical staff, who manage instrument bookings and operation.

Description and Applications

The BD FACSCelesta benchtop flow cytometry analyzer is an instrument capable of performing multiparametric immunophenotypic analyses (assessment of cell-surface or intracellular molecule expression) and functional assays (e.g., cell proliferation and apoptosis) on cell samples of various origins, provided they are in suspension. These include, for example, whole-blood samples pre-lysed to remove red blood cells, isolated leukocyte fractions, suspension cell lines, and adherent cell lines following detachment, as well as appropriately prepared tissue samples that have undergone mechanical and/or enzymatic dissociation to obtain a single-cell suspension.

The instrument is intended exclusively for research purposes and is not used for diagnostic applications.

Technical Features:

- Model: BD FACSCelesta
- Type: Three-laser benchtop flow cytometry analyzer (B/V/R), with 12 fluorescence parameters and 2 morphological parameters (FSC and SSC). Optical configuration as described in the table below.
- Data acquisition and analysis software: FACSDiva™ (version 8.0.1.1)

Optical Configuration

LASER	FILTER	EXAMPLES OF COMPATIBLE FLUOROCHROMES
VIOLET (405 nm)	[A] BP=780/60 (LP=750 nm)	BV786
	[B] BP=670/30 (LP=655 nm)	BV650
	[C] BP=610/20 (LP=595 nm)	BV605
	[D] BP=525/50 (LP=505 nm)	BV510, V500
	[E] BP=450/40 nm	BV421, V450
BLUE (488 nm)	[A] BP=780/60 (LP=750 nm)	PE-Cy7
	[B] BP=695/40 (LP=670 nm)	PerCP-Cy5.5, PerCP, BB700, PI, 7-AAD
	[C] BP=575/25 (LP=550 nm)	PE
	[D] BP=530/30 (LP=505 nm)	FTTC, AF488, BB515
	[E] BP=488/10 nm	SSC (parametro fisico)
RED (640nm)	[A] BP=780/60 (LP=750 nm)	APC-Cy7, APC-H7
	[B] BP=730/45 (LP=650 nm)	APC-R700, AF700
	[C] BP=670/30 (LP=665 nm)	APC, AF647, CPDeFluor640

⚠ Safety Precautions

- The instrument may only be operated by authorized personnel.
- The instrument is not housed in a certified biosafety cabinet and is not equipped with an aerosol management system. Users submitting biological samples for flow

cytometric analysis must declare, under their own responsibility, that the samples DO NOT CONTAIN any biological agent classified in Risk Group 4, as defined by Legislative Decree No. 81/2008 (Article 268 and Annex XLVI), namely: *“a biological agent that can cause severe disease in humans and poses a serious risk to workers, may present a high risk of spread within the community, and for which effective prophylactic or therapeutic measures are not normally available.”*

- Samples that are unsuitable for analysis, including those that are not in suspension or contain aggregates that could compromise the instrument's fluidics system, will not be accepted.
- In the event of instrument malfunctions, error messages, unusual noises, and/or fluid leaks during sample acquisition, the technical contact is responsible for immediately stopping the analysis and arranging for specialized technical support, if necessary.

Operating Instructions

- Instrument booking is mandatory and must be made through the internal booking system, following prior arrangements with the designated contacts.

Materials and Accessories for Analysis Provided by CRIETT

- Consumables required for instrument operation: FACSTFlow for sample acquisition, cleaning and disinfection solutions (BD Detergent and FACSClean), and beads for instrument calibration and quality control (CST Beads).

Materials and Accessories to Be Provided by the User

- 5 mL FACS tubes (12 × 75 mm), with and without caps, for flow cytometer sample acquisition (catalogue numbers 352054 and 352052).
- Appropriate buffers for sample suspension and analysis.
- Other disposable materials (e.g., tubes, pipette tips, and gloves) required during sample acquisition.
- Software for flow cytometry data analysis (e.g., FlowJo or equivalent). Post-acquisition sample analysis is generally the user's responsibility.

For further information and advice on planning specific experiments and optimizing flow cytometry panels, please contact the designated contacts.