



BD FACSMelody™ Cell Sorter

The simple solution for consistent, quality results



The right instrument is needed for the best results

Simplicity, affordability and
quality are key

Cell sorting is fast becoming an essential step on the path to deeper understanding and new discoveries in the life sciences. Although cell sorting often is performed on instruments owned by core labs, there are issues associated with transporting samples and timely access.

A readily available on-site sorter that provides consistent, reliable results could benefit researchers in many fields of investigation. And, researchers need a solution that is easy to learn, use and maintain. That solution is here.



The BD FACSMelody™ cell sorter makes sorting easy

Truly easy cell sorting is finally available to your lab. Now you can save time with simplified operation and get quality reproducible results. The BD FACSMelody™ cell sorter makes the complex world of flow cytometry and sorting accessible to more researchers, enabling deep scientific insights, lab efficiency and cost savings.

Incorporating technology exclusive to BD, the BD FACSMelody cell sorter is based on the proven BD FACSAria™ platform of cell sorters. With fixed alignment and gel-coupled cuvettes, the BD FACSMelody builds on the BD FACSAria reputation for driving superior performance and reliability.

Easy to use: Automation of complex tasks and guided procedures facilitate consistent results, even when skill levels vary among users, to enable deep scientific insights for more researchers.

Lab efficiency and productivity: Save time and money with an affordable cell sorting solution based on a streamlined workflow to improve throughput, minimize downtime and promote experimental success.

High performance: A complete system of reagents, software and hardware works together to detect and sort low density cell markers and rare cells. The system delivers reproducible results while protecting the operator and the sample, and enables sorting into tubes or a range of standard plates.

Trusted brand: Rely on highly responsive field service support and expertise in flow cytometry instrumentation and applications from BD, backed by more than 40 years of experience and innovation in flow cytometry and thousands of peer-reviewed publications citing BD flow cytometry instruments, software and reagents.

Easy to learn and use

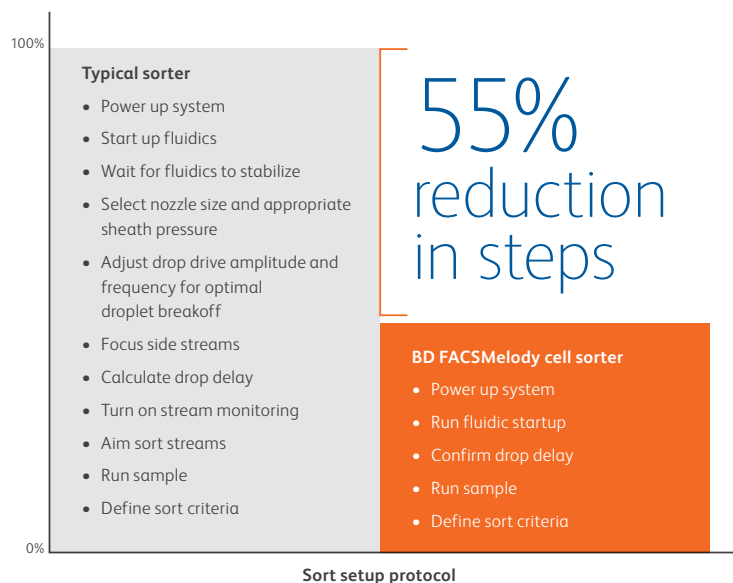
Simplify the workflow with smart automation

With BD FACSCorus™ software, researchers are guided throughout the entire cell sorting process using advanced automation technology. Designed to eliminate manual steps, this smart automation simplifies the workflow, making cell sorting easy to learn, and the BD FACSMelody sorter easy to use.

With an intuitive user interface, BD FACSCorus software enables researchers at all skill levels to achieve high-purity sorting with:

- Screens that are dedicated to each single step
- On-screen instructions and tips that display when needed
- Preset data tools to save the user clicks and time
- Instrument management behind the scenes to activate sort controls, monitor sort progress and turn off sort controls when sorting is completed
- Simple to read reports

Automation makes sorting simple and saves time



Minimal training required for effective operation

Learning to operate the BD FACSMelody cell sorter is easy, regardless of a user's skill level or experience. To aid in producing consistent results, BD FACSCorus software prompts novice users with step-by-step instructions. It eliminates the need for setting up the sort streams and monitoring the sort, reducing the risk of poor sort outcomes.

Automation of routine tasks

- Typically the system is ready in less than 17 minutes, maximizing uptime.
- Fluidic startup automatically debubbles the stream.
- Sheath pressure, drop drive frequency and amplitude are optimized.
- The sort streams are focused and steered into tubes or plates.

Streamlined workflow

- Instrument settings, gates and sort settings are available and retrievable from saved experiments.
- Compensation is conveniently computed automatically from the results of compensation controls.
- Compensation controls can be labeled capture beads, cells, BD™ FC Beads, or a combination of types.
- Compensation is automatically recalculated when detector settings are adjusted, simplifying operation and saving time.

System anticipates potential issues and identifies root causes

- Filter/mirror units communicate with the software to confirm the optical configuration supports your experiment.
- Stream stability is monitored to detect and correct stream aberrations. If the stream cannot be corrected, sorting will pause and the operator is notified.
- When a sample tube is empty, the sample flow is stopped before bubbles can be introduced into the nozzle.
- Alerts remind the operator to perform maintenance.
- Sorting is stopped when the target number of cells is reached, inhibiting overflowing of collection tubes.

Lab efficiency and productivity

Save time with simplified operation and maintenance

The BD FACSMelody cell sorter allows researchers to work more efficiently and improves throughput. A streamlined workflow eliminates manual setup of the stream and monitoring of the sort, which minimizes hands-on time and provides walk-away sorting capability.

Fast results to improve lab throughput

- 4-way sorting capability allows you to spend less time on sequential runs and get more information from your precious samples by enabling you to sort four different desired cell populations in a single run.
- Fixed alignment means there is no lengthy procedure with alignment beads required at startup.
- Only perform instrument QC when needed. It is not required each time the sorting nozzle is installed. Even with instrument QC, you can typically run your sample in less than 17 minutes compared to less than 8 minutes without QC.
- Automated stream setup and steering into tubes or plates saves valuable minutes.

Minimal downtime

- Instrument QC continuously monitors the system to track performance and predict problems such as laser failures before they occur.
- The sorter design facilitates fast troubleshooting, such as easy and quick replacement of the sorting nozzle, with no need to re-align the laser and stream or run QC beads. You can resume sorting within 3 minutes because the nozzle is separate from the fixed-alignment flow cell, which is where the sample is interrogated.

Cost savings

- The BD FACSMelody cell sorter features a fixed flow cell and reusable nozzle, eliminating the need to purchase daily consumables.
- This affordable solution allows for in-house cell sorting, which can save money compared to outsourcing.

Quick results

Typically run your sample in less than 17 minutes.

- | | |
|---|-----------|
| 1. System powerup | 3 minutes |
| 2. Laser and stream alignment | 0 minutes |
| 3. Fluidics startup | 3 minutes |
| 4. Stream optimization | 2 minutes |
| 5. Daily performance checks with beads | 9 minutes |
| 6. Experiment settings and compensation normalized for consistent results | 0 minutes |



High performance

Designed to empower scientific discovery

Simplified operation does not mean reduced performance. The BD FACSMelody system features excellent sensitivity for accurate resolution of low density cell markers and high throughput for collecting rare cells.

With a BD-pioneered optical system, the BD FACSMelody cell sorter maximizes signal generation, collection and detection through lasers with fixed alignment and independent focusing.

Detect and sort dim cells and rare cells

- The patented gel-coupled cuvette with fixed alignment ensures that lasers are precisely focused on the sample stream to generate the greatest signal for optimizing the resolution of dim cells and adjacent populations.
- Spatially separated laser beams ensure minimal optical background noise and improved sensitivity from each laser for resolving dim populations.
- The sorter can process many cells quickly to improve the isolation of rare cells.

Reproducible results

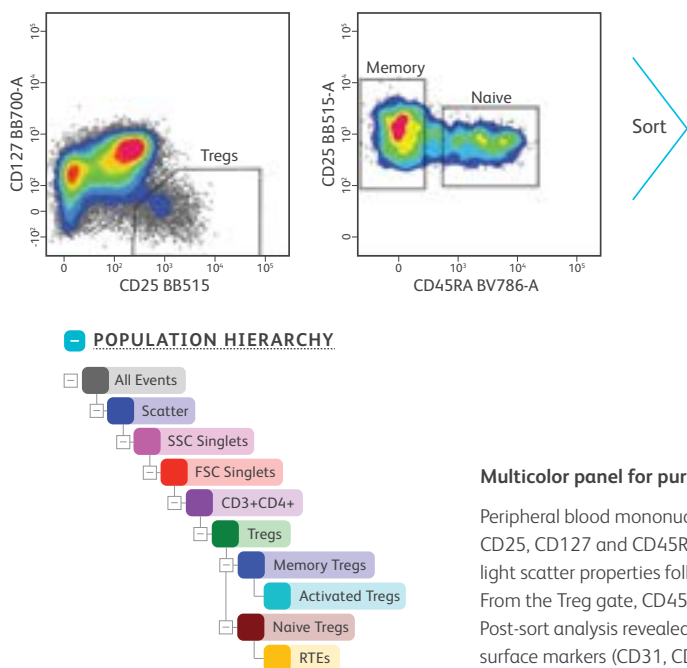
- Using BD™ CS&T technology for daily QC ensures consistent performance across all detectors and ensures day-to-day and experiment-to-experiment reproducibility.
- Run once every 60 days, spectrally matched BD FC Beads determine spillover values for various standard fluorochromes. The values remain independent of experiment settings and are automatically updated and maintained after QC runs.
- Run any new fluorochrome as a single-color control to add its spillover properties to the software's list of reagents. The fluorochrome's spillover can be calculated when setting up an experiment even if different detector gains are used.

Optimized system of reagents, software and hardware

- Whether you start with the maximum three-laser and nine-color system or upgrade later, all instrument configurations are optimized for bright BD Horizon Brilliant™ and BD OptiBuild™ reagents.
- An optional yellow-green laser excites popular fluorescent proteins such as DsRed and mCherry, as well as PE and PE tandem dyes. Available in ten configurations, the BD FACSMelody features a standard blue laser and up to two optional lasers, red, violet or yellow-green, enabling a breadth of applications.
- Sweet Spot technology maintains sort stream stability, so that yield and purity are maintained.
- Maximize your experimental data with index sorting, which allows you to correlate cell surface markers with other post-sort data such as gene expression, for greater biological insight. Index 1 to 100 cells per well for the greatest flexibility in your post-sort studies.

Operator and sample protection

- A custom Class II biological safety cabinet, verified to meet personnel and product protection standards with the instrument installed in the work area, is available. It includes a built-in aerosol management system that evacuates aerosols and operates independently of the cabinet for an extra level of protection.



Multicolor panel for purification and immunophenotyping of Treg subsets

Peripheral blood mononuclear cells were isolated from a healthy donor and stained with a cocktail of surface markers (CD3, CD4, CD25, CD127 and CD45RA) for the detection and purification of Treg subsets. Lymphocytes and singlets were first gated based on light scatter properties followed by gating of CD3⁺CD4⁺ T cells (not shown). Tregs were then identified as CD127^{low/neg}CD25^{high}. From the Treg gate, CD45RA⁺ naive and CD45RA⁻ memory Tregs were identified and sorted at 5,000 events/sec in purity mode. Post-sort analysis revealed homogenous populations of memory and naive Tregs. Purified cells were then stained for additional surface markers (CD31, CD39 and CD15s) for immunophenotyping. CD31⁺ recent thymic emigrants (RTEs) were detected within CD45RA⁺ naive Tregs, whereas highly activated Tregs were detected within CD45RA⁻ memory Tregs.

Trusted partner

Rely on an industry leader for experimental success

Researchers expect the best when it comes to BD, a leader in flow cytometry sorting, and the BD FACSMelody cell sorter hits the mark.

- With more than 40 years of experience and innovation in flow cytometry, BD continues to develop and improve instrumentation, software and reagent solutions.
- Tens of thousands of peer-reviewed publications cite BD flow cytometry instruments, software and reagents.
- BD offers world-class technical application support and highly responsive field service support.
- The BD FACSMelody cell sorter was developed from proven BD FACS™ technology.

The BD FACSMelody cell sorter combines ease of use with high performance

The use of cell sorting is expanding to a wide range of applications such as immunology, stem cell research, genomics, bioprocessing and cancer biology. In this environment of rapidly changing technology, researchers need trustworthy partners such as BD to help them advance their knowledge with dependable, high-quality instruments that get the job done right the first time and mitigate potential risks.

The time has come to make flow sorting accessible to more researchers.

By combining ease of use with high performance, the BD FACSMelody cell sorter does just that.

- **Easy to use** so that operating this cell sorter is as easy as operating a flow analyzer
- **Lab efficiency and productivity** to save time and money
- **High performance** for deep scientific insights from reproducible, consistent results
- **Trusted brand** providing proven technology backed by decades of expertise and support in flow cytometry



Contact your BD associate today to discuss how this innovative cell sorter could enable deep scientific insights, lab efficiency and cost savings.

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