



BD FACSymphony™ S6 Cell Sorter

Special Order Research Product

A cell sorter to put you at the forefront of research





High parameter flow cytometry has been a primary driver in recent biological research. And cell sorters have not kept up with the requirements for isolating newly discovered subpopulations. Until now. Today the ability to sort distinct phenotypes is available for your lab. What's the first experiment you would do with the ability to sort based on high parameter flow cytometry?

The BD FACSymphony S6 cell sorter is designed to power your scientific discoveries – the cutting edge discoveries that will define a new future in your field and have a lasting impact.

Cutting edge science requires cutting edge technology and the BD FACSymphony S6 delivers.

Built on the solid foundations of the BD FACSymphony™ A5 cell analyzer and BD FACSAria™ Fusion cell sorter, the innovations in the BD FACSymphony S6 bring cell sorting in line with the capabilities of modern flow cytometry. Now, you can sort populations identified with 20 or more colors in the complex hierarchies required for your application.

But more than this, when coupled with BD's broad portfolio of high parameter reagents, bioinformatics analysis tools, single cell multiomics solutions and applications support capabilities, the BD FACSymphony S6 equips researchers with a complete, end-to-end solution for your high parameter experimental success.

Spearheading New Discoveries

Enable the sorting of ultra-specific populations by using up to 60 parameters to define populations deep in your hierarchy and sort up to 6 of them at one time so that you can get more information from each cell and more value from each experiment – whether it's more precisely isolating the population of interest prior to your downstream assay, or linking deeper phenotypic information with your functional or genomic read-outs. All this data puts you on the right track to results which make an impact.

But the data set is not just powerful because there's more information per cell, it's high quality data as well. Low-noise electronics and highly-sensitive PMT detectors tuned to the appropriate detector wavelengths are combined with optics designed to maximize signal collection, including the BD patented gel-coupled cuvette, in order to provide excellent sensitivity to resolve dim populations and explore the nuances of marker expression deep within the biology of the sample.

BD FACS™ Accudrop technology enables high-performance sort results by maintaining an optimal breakoff and pausing the sort when necessary to protect the purity of the sorted sample.

Index sorting makes it possible to review the cell-surface phenotype of every cell deposited into a multi-position device, such as a 96-well plate. Sort and tray position information is available on an event-by-event basis in order to correlate post-isolation results to each individual sorted cell, allowing you to link a precise phenotype to your downstream experimental observations.



Accelerating science

Leveraging the leadership of BD across high parameter flow cytometry

BD's innovations in high parameter instrumentation with the BD FACSymphony analyzers and in high parameter reagents with the BD Horizon Brilliant™ Dyes are the natural foundation for a high parameter cell sorter. The combination of all three – dyes, analyzers and sorter – leads to the broadest solution for high parameter experimentation available, enabling you to move quickly from biological question and analysis to sorting.

Designing panels takes time and reagents away from the discoveries of an experiment and has previously been a bottle neck in moving from analysis to sorting. Now, with the ability to match your configurations between your BD FACSymphony A5 analyzer and your BD FACSymphony S6 cell sorter, you can easily transfer a panel from one to the other without spending the time to develop a new panel. Even if 20 parameters are not required to sort your subpopulations, you can rest easy knowing that the fluorochromes paired with the key markers of interest are available on the BD FACSymphony S6.

Accelerate your discoveries by taking a panel you've optimized on your BD FACSymphony A5 and move it to the BD FACSymphony S6 to sort, with more parameters than any other analyzer and sorter combination.

Figure 1

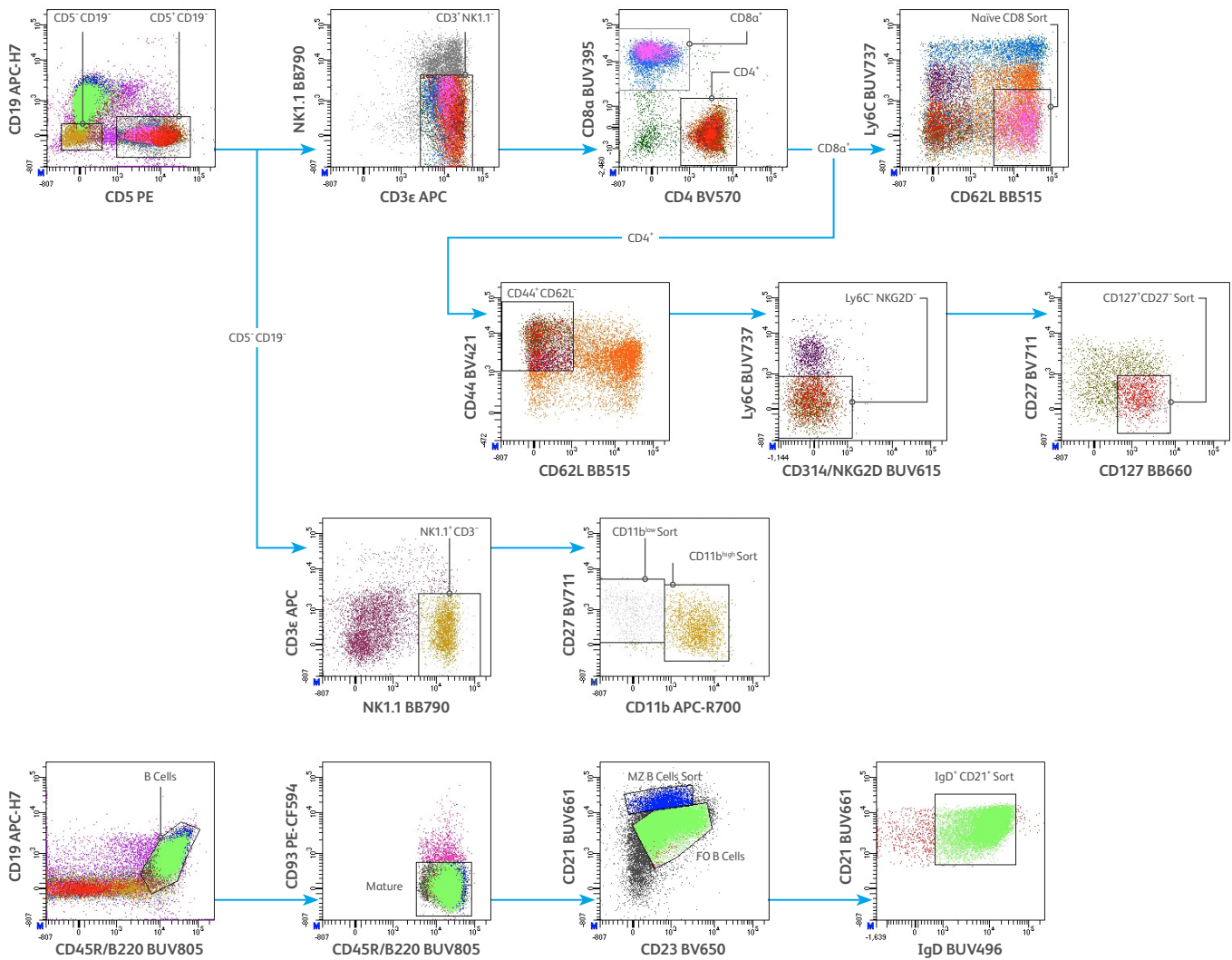


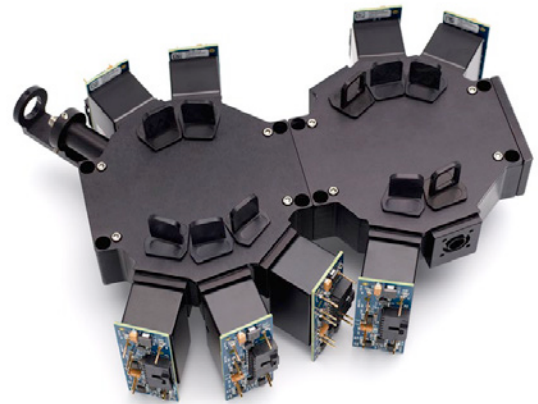
Figure 1: A 27-color panel for analysis of immune cell composition in mice

A 27-color mouse panel was optimized on the BD FACSymphony A5 and target MFIs were transferred to the BD FACSymphony S6 to allow sorting 6 distinct subsets from the panel: Naive CD8 T Cells, Mantle Zone B Cells, IgD⁺ CD21⁺ B Cells, CD11b^{Hi} Natural Killer Cells, CD11b^{Lo} Natural Killer Cells, and CD127⁺CD27⁻ T Cells. Cells were gated on scatter, as well as doublets and dead cells (7-AAD positive) were excluded (data not shown) prior to gating for the sort populations above. Of particular interest, the CD127⁺CD27⁻ sort population was in the 10th generation of the gating hierarchy. All populations were between 1 and 10% of live cells, and achieved greater than 90% purity (data not shown).

Flexible Platform

Built with the flexibility of BD's Special Order Research Product (SORP) program, the BD FACSymphony S6 is designed to meet your assay's needs – no matter how unique.

- The system can be configured with up to 9 spatially separated lasers. There are more than 25 wavelength options available through SORP.
- New high parameter cascades allow up to 20 parameters on a single laser line, without losing sensitivity and use removable filters that can be completely customized for optimal detection of dyes and fluorescent proteins.
- A multitude of collection devices are provided with new flexibility to change tubes and holders without stopping the sort.
- High-precision interchangeable nozzles are available for a wide range of cell size support: 70, 85, and 100 μm come standard. An optional 130 μm nozzle is also available.
- Have peace of mind through support for field upgrades, including the addition of new laser lines or additional parameters in the future, and the biosafety cabinet after purchase.
- Contact your local BD Representative for a full discussion on options with the BD FACSymphony S6.



Patented detector technology allows for up to 20 parameters on one laser line.

Figure 2

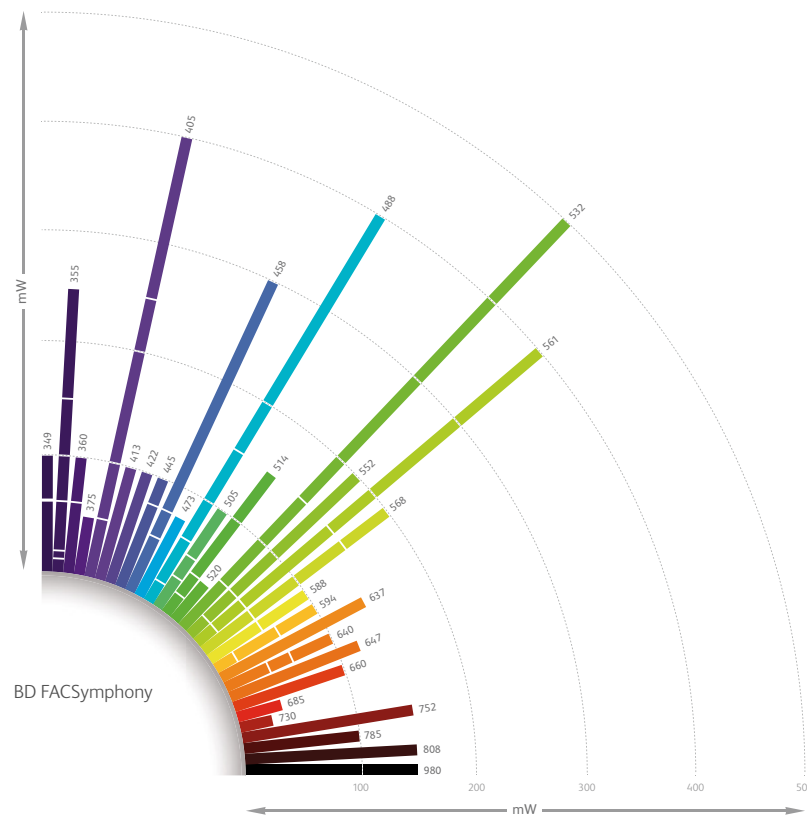


Figure 2: Available laser wavelength and power options through the Special Order Research Program

Each ray of the diagram represents an available laser wavelength, and each segment represents an available laser power of the given wavelength. Please contact your BD representative for a full list of laser options.

Priority on Biosafety

BD and The Baker Company have joined forces to provide a biosafety solution which meets personnel and product protection standards.

BD knows that your safety is important so the BD FACSymphony S6 has been designed with safety in mind. The purpose-built BD FACSaria Fusion biosafety cabinet (BSC) with independent aerosol management system (AMS) means that National Sanitation Foundation International Standard 49, the European Standard 12469, the China Standard SFDA YY- 0569:2005 and the Australian Standard AS 2252.2- 2009 for personnel and product protection are all met.

Since the BD FACSymphony S6 and The Baker Company BSC were designed for a seamless fit, a BSC can be added later in a field upgrade that takes less than a day to install.

Additionally, the easy-to-clean stainless steel sort chamber, enclosed sample pathway and the Prepare for Aseptic Sort procedure all enable you to prioritize biosafety while also prioritizing performance and usability with the BD FACSymphony S6.

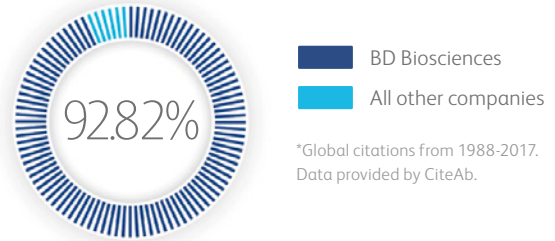


Built by BD, as part of the BD Total Solution

Building on our 40-year history of expertise and innovation in flow cytometry, it only makes sense that the game-changing BD FACSymphony S6 comes from BD. BD has consistently led the progression to higher parameter flow cytometry with instruments and reagents and we continue that progression now with high parameter cell sorting.

BD has led the way with thousands of peer-reviewed publications using BD instruments, technology and software. The BD FACSymphony S6 is built on that legacy with the reliability and performance of the BDFACSAria Fusion instrument, and the cutting-edge optics and electronics of the BD FACSymphony A5. With a familiar interface via the BD FACSDiva software package, users will quickly be up to speed on running the BD FACSymphony S6, but be appreciative of the reengineering to take full advantage of Windows 10 64-bit power.

Share of Flow Cytometry Citations*



Support

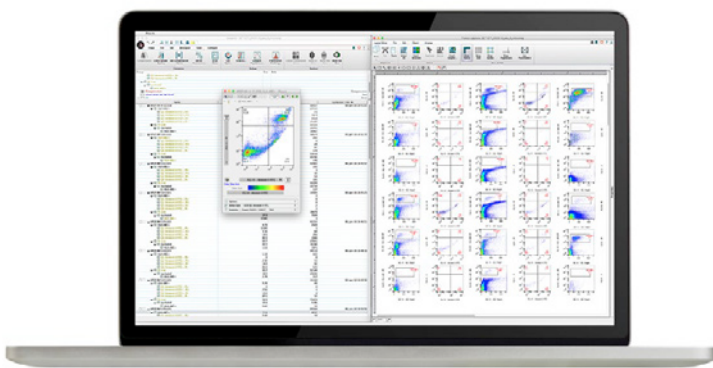
In addition to innovative technology and a history of reliability, BD has a worldwide team of engineers and application specialists ready to help customers through comprehensive training and field service calls. Hands-on training is included with each BD FACSymphony S6 cell sorter, and applications specialists are available to help with panel design.

Reagents

Our broad portfolio of fluorochromes featuring the BD Horizon Brilliant dyes and BD OptiBuild™ technology, along with our custom reagent services, offer flexibility for experimental design.

BD Horizon Brilliant dyes were developed utilizing Nobel-prize winning Sirigen technology to expand the number and options of fluorochromes for the blue, yellow-green, violet, and UV lasers. These dyes were selected for their specific spectral characteristics such as increased fluorescence intensity, reduced cross-laser excitation and reduced spillover into other channels.

FlowJo™



Utilize FlowJo software for your high-parameter analysis needs. In addition to native models for advanced data analysis and necessary tools for publication-quality graphics, FlowJo v10 software has a plug-in architecture to enable access to the latest algorithms and easiest workflows. Popular plug-ins from FlowAI to FlowSOM are available to help you get the most out of your high-parameter data, and now, the HyperFinder plugin and the FACSDiva™ import and export workflow combine to allow you to define a gating strategy for a population found using any combination of clustering, gating and dimensionality reduction.

Single Cell Multiomics

A cell sorter is often the gateway to downstream single cell applications and in this regard, the BD FACSymphony S6 combined with the BD Rhapsody™ Single-Cell Analysis System make a powerful pair. Utilize the FACSymphony to target and isolate specific, rare cell populations that require high parameter sorting. Make great discoveries and gain novel insights about the sorted populations via multiomic analyses performed using BD® AbSeq and the BD Rhapsody Single-Cell Analysis System. Combining sorting with single cell analyses also dramatically lowers the sequencing costs of your experiments.

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