BIO-RAD

StarBright Dyes

Bright Reagents for Bright Ideas

level Discovering new boundaries

進階生物科技股份有限公司

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StarBright Dyes

Research without Limits

StarBright Dyes are unique, fluorescent nanoparticles conjugated to Bio-Rad's highly validated antibodies. Developed specifically for flow cytometry to give you exceptional brightness with exacting excitation and emission.

The brightness allows easy resolution of rare populations and low density antigens while maintaining the flexibility to fit into any multicolor panel.

See how the features of StarBright Dyes can enhance your flow cytometry experiment.

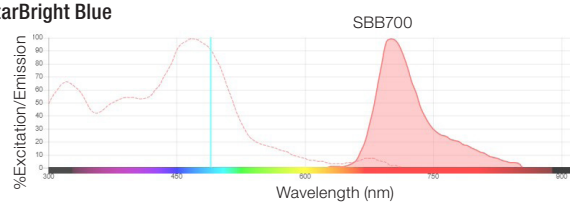
Benefits

- Bright
- Narrow excitation and emission
- Flexible as no special buffers required
- Compatible with all instruments and reagents
- Lot-to-lot reproducibility
- Photostable

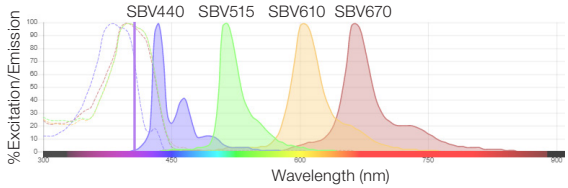
StarBright Dyes

First in the Family

StarBright Blue



StarBright Violet



Bright with Reduced Spillover

StarBright Dyes have been designed to have superior brightness with defined excitation and emission characteristics. This allows better resolution of specific cell populations, including rare and low density antigens, while minimizing spillover and spreading in multicolor panels. With StarBright Dyes you can build bigger panels with ease.

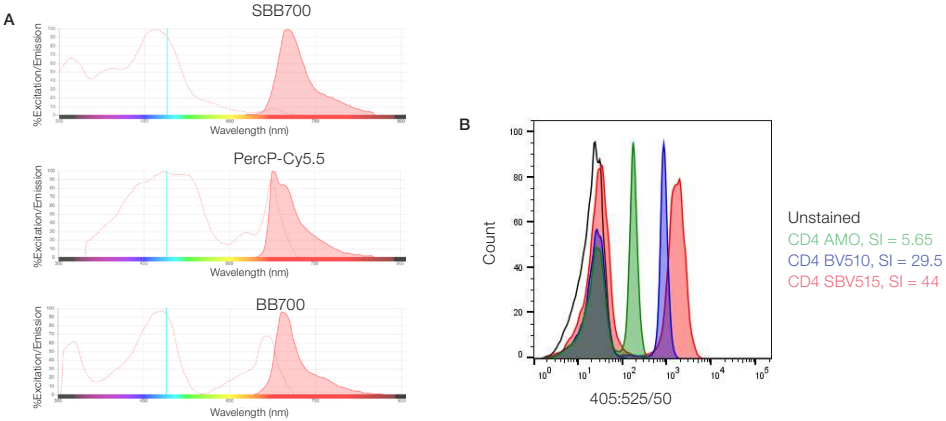


Fig. 1. Improved brightness and spillover of StarBright Dyes compared to competitor dyes. A, SBB700 has limited excitation at 640 nm compared to competitor dyes. **B,** human peripheral blood was stained with CD4 conjugated to Amethyst Orange (Cat. #MCA1267AMO), Brilliant Violet 510, and StarBright Violet 515 (#MCA1267SBV515). The stain index is shown for all three dyes. All samples were stained in PBS 1% BSA, acquired on the ZE5 Cell Analyzer. Histograms show the brightness and stain index achieved with these antibodies.

Easy Integration into Your Experiments

StarBright Dyes easily fit into your existing protocols and panels. They are compatible with most staining protocols, work in virtually any buffers, including commercial polymer staining buffers, with no loss in performance (Figure 2). They can be combined with other StarBright Dyes, organic fluorophores, protein-based fluorophores, and other polymer dyes without the need for special staining protocols (Figure 2C), allowing you to build larger panels with ease.

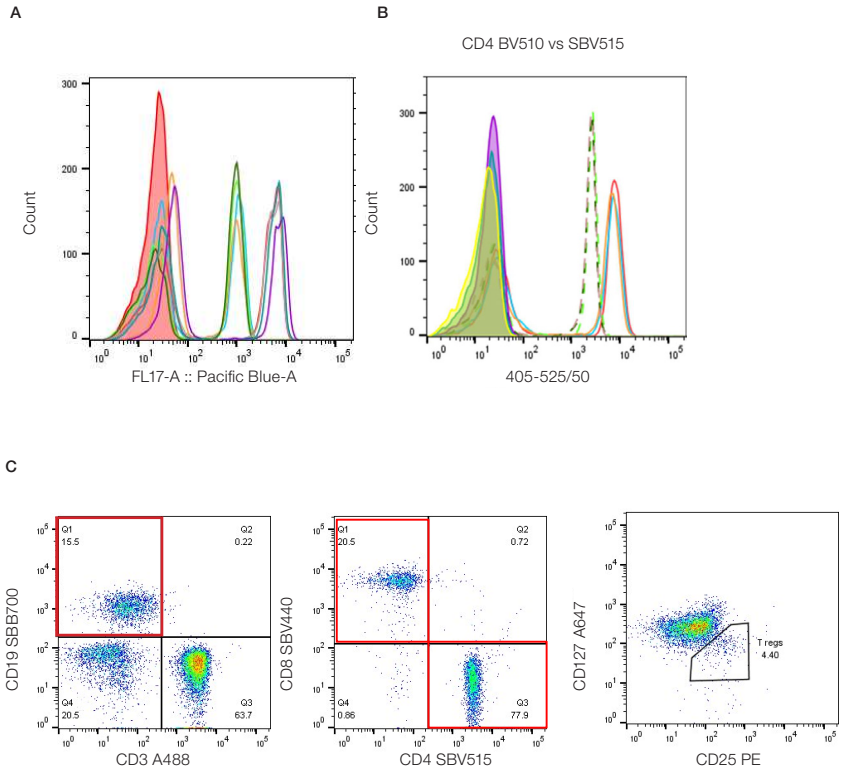


Fig. 2. Buffer compatibility. Human peripheral blood was stained with CD4 conjugated to **A,** Pacific Blue and SBV440 or **B,** BV510 and SBV515 in a variety of buffers containing BSA, EDTA, and NaN_3, with no drop in performance. **C,** human peripheral blood was stained with CD3A488 (#MCA463A488), CD19SBB700 (#MCA1940SBB700), CD4SBV515 (#MCA1267SBV515), CD8SBV440 (#MCA1226SBV440), CD127A647 (#HCA145A647), and CD25PE (#MCA2127PE) in PBS 1% BSA. Unlike other polymer based flow cytometry reagents, combining multiple StarBright Dyes does not require a special staining buffer. All samples collected on the ZE5 Cell Analyzer.

Compatible with All Instruments

StarBright Dyes have been developed on the ZE5 Cell Analyzer but can be used on any instrument with the right lasers and filters, including cell sorters. In addition, they have been shown to work in spectral flow cytometry giving comparable results to conventional flow.

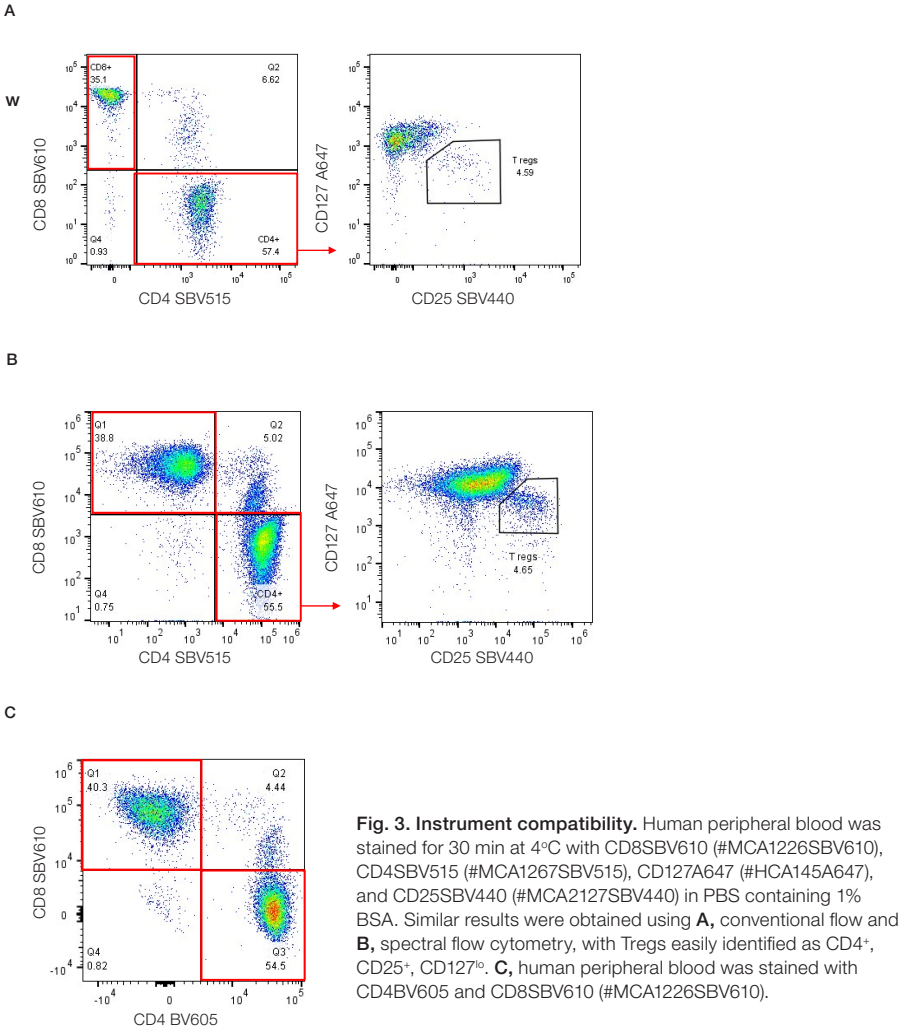


Fig. 3. Instrument compatibility. Human peripheral blood was stained for 30 min at 4°C with CD8SBV610 (#MCA1226SBV610), CD4SBV515 (#MCA1267SBV515), CD127A647 (#HCA145A647), and CD25SBV440 (#MCA2127SBV440) in PBS containing 1% BSA. Similar results were obtained using **A,** conventional flow and **B,** spectral flow cytometry, with Tregs easily identified as $CD4^+$, $CD25^+$, $CD127^{lo}$. **C,** human peripheral blood was stained with CD4BV605 and CD8SBV610 (#MCA1226SBV610).

Reproducible Results

StarBright Dyes, unlike some polymer and other dyes, are not tandem dyes. This means they can be made with high lot-to-lot reproducibility (Figure 4), are stable and resistant to photobleaching with no loss of performance over time. They also exhibit less cross-laser excitation and no excitation from acceptor dyes found in tandem dyes. Additionally, they can be fixed in paraformaldehyde with little or no drop in fluorescence.

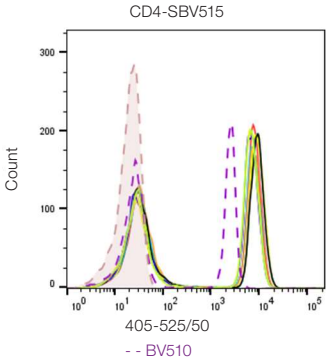


Fig. 4. Lot-to-lot reproducibility of StarBright Dyes. Human peripheral blood was stained with three lots of CD4SBV515 (#MCA1267SBV515) in triplicate to assess variance in stain index and percent CD4 positive between batches. Minimal variation was seen when overlaid (solid lines), actual stain index and percent positive data shown in the table.

Table 1. Lot-to-lot consistency.

Lot	Brightness (Stain Index)	Target Population Discrimination (%)
SBV515-1	213.5	72.9%
	210.0	70.7%
	203.4	70.7%
SBV515-2	253.2	72.8%
	245.1	72.7%
	258.5	72.1%
SBV515-3	222.4	71.9%
	204.8	70.5%
	193.6	69.8%
Average	222.7	71.6%
Stdev	23.71	0.01

We Are Flow Cytometry

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- S3e Cell Sorter

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- Protocols
- To boldly flow webinar

Products
- Cell filters

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- Antigen density
- Interactive marker selection tool
- Marker expression posters
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- Web search
- Guide to identification of myeloid and B cells

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- Single units
- Cocktails
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- Apoptosis kits
- StarBright Dyes

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- Cell frequencies in common samples guide

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- Spectraviewer tool
- Panel builder tool

Products
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