



# Stain Index for StarBright™ Yellow Dyes

## Quick Guide



StarBright Dyes are new, proprietary fluorescent nanoparticles conjugated to Bio-Rad's highly validated antibodies. StarBright Dye-conjugated antibodies are designed to offer exceptional brightness, narrow excitation and emission spectra, and stability, with high lot-to-lot reproducibility.

This handy reference guide shows the stain index of StarBright Yellow Dyes (SBY) compared to other yellow laser-excitable fluorescent dyes with similar maximal emissions.

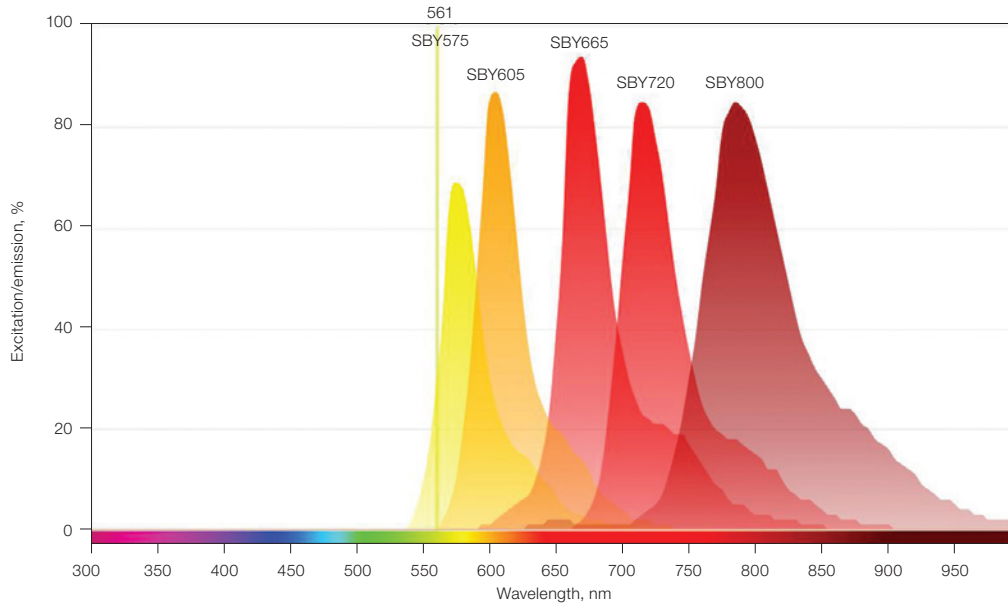
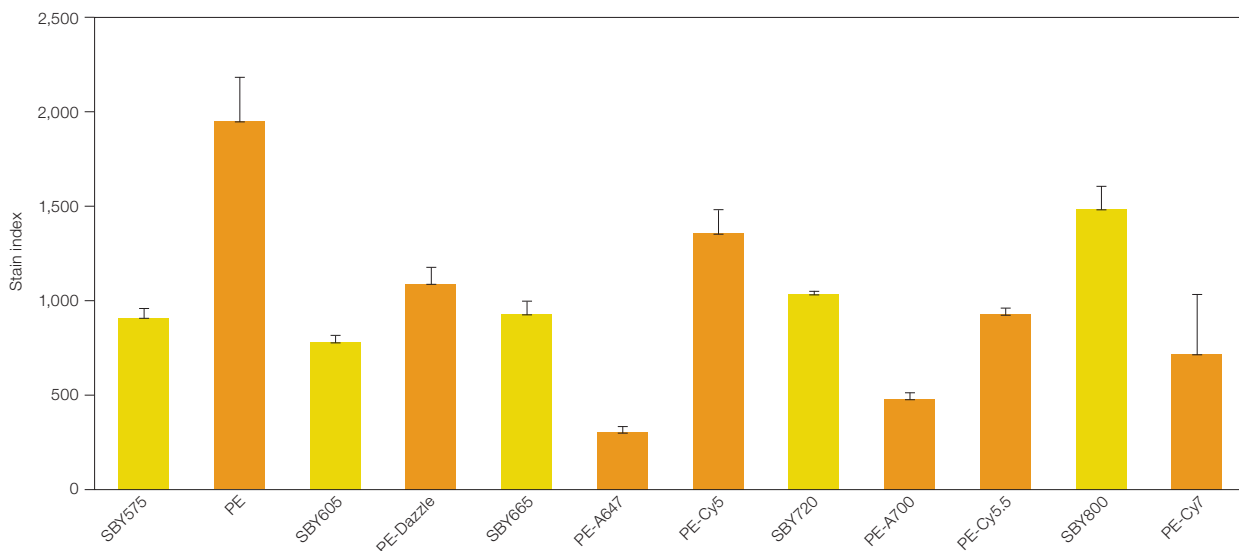


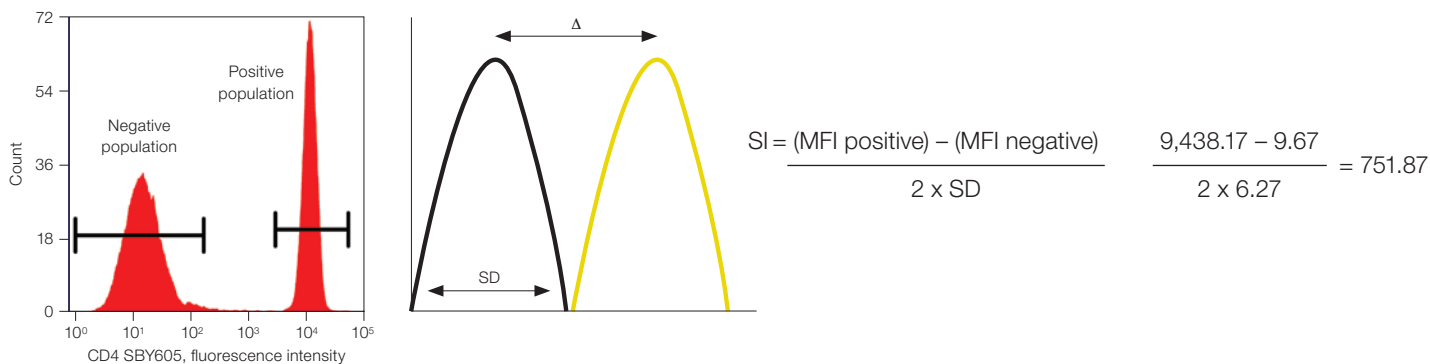
Fig. 1. Excitation and emission spectra of StarBright Yellow Dyes.



**Fig. 2. Stain index comparison of various 561 nm excitable dyes used to detect CD4 in human peripheral blood samples.** StarBright Yellow Dyes (■) and PE and PE-tandem dyes (■) were conjugated to Mouse Anti-Human CD4 Antibody (Bio-Rad Laboratories, Inc., catalog #MCA1267). Data shown are the average of three donors. Antibodies were titrated prior to use and analyzed on the ZE5 Cell Analyzer. A647, Alexa Fluor 647; A700, Alexa Fluor 700; Cy, cyanine; PE, phycoerythrin; SBY, StarBright Yellow Dye.

### How to Generate a Stain Index (SI)

A stain index is a method to calculate the relative brightness of a fluorescent dye on a particular instrument. It is defined as the difference (delta) between the median fluorescence intensity (MFI) of the positive population (yellow) and the negative population (black) divided by two times the standard deviation (SD) of the negative population. A titration of antibody followed by the stain index calculation can determine the optimal amount of antibody to use in your experiments.



**Fig. 3. Stain index calculation for Mouse Anti-Human CD4 Antibody conjugated to SBY605 (#MCA1267SBY605).** MFI, median fluorescence intensity; SBY, StarBright Yellow Dye; SD, standard deviation; SI, stain index.

Visit [bio-rad-antibodies.com/stain-index](https://bio-rad-antibodies.com/stain-index) for more information.

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