Flow Cytometry Fluorophores

BioLegend has spent decades working with researchers to create the right tools to understand complex biological mechanisms. For many, flow cytometry is the ideal tool to characterize and phenotype cell populations. As new instruments are being created with additional lasers and detectors, our scientists are devoted to expanding our reagent library with novel antibodies and fluorophores that fill new spectral spaces. Learn about each of the purposeful fluorophores we've created to help you better understand the cells that control our immune reactions.

Spark Dyes

Spark Dyes are a family of small, synthetic fluorophores that fill spectral spaces between existing fluorophores. Spark Dyes are advantageous due to their stability, solubility, and relatively narrow emission profile.

Learn more at: biolegend.com/en-us/spark-dyes

Fire Dyes

Our Fire Dyes are tandem fluorophores that push the limits of flow capabilities by expanding into spectral spaces previously unused in conventional cytometry. In addition, we also offer Fire Dyes with enhanced stability and brightness for existing channels.

Learn more at: biolegend.com/en-us/fire-dyes

Brilliant Violet™ Dyes

Brilliant Violet™ fluorophores are intensely bright polymers excited by the violet laser. Brilliant Violet™ antibody conjugates help researchers maximize the utility of the violet laser for a large selection of targets.

Learn more at: biolegend.com/en-us/brilliant-violet

Violet Laser (405 nm)

Conventional Spectra | 5-Laser Aurora Spectra

- Brilliant Violet 421™
- Pacific Blue™
- Brilliant Violet 510™
- Spark Violet™ 538
- Brilliant Violet 570™
- Brilliant Violet 605™
- Brilliant Violet 650™
- Brilliant Violet 711™
- Brilliant Violet 750™
- Brilliant Violet 785™

Blue Laser (488 nm)

Conventional Spectra | 5-Laser Aurora Spectra

- Alexa Fluor® 488
- FITC
- KIRAVIA Blue 520™
- Spark Blue™ 550
- PerCP
- PerCP/Cyanine5.5

Yellow/Green Laser (561 nm)*

Conventional Spectra | 5-Laser Aurora Spectra

- PE
- Spark YG™ 581
- Spark YG™ 593
- PE/Dazzle™ 594
- PE/Fire™ 640
- PE/Cyanine5
- PE/Fire™ 700
- PE/Cyanine7
- PE/Fire™ 810

Red Laser (633 nm)

Conventional Spectra | 5-Laser Aurora Spectra

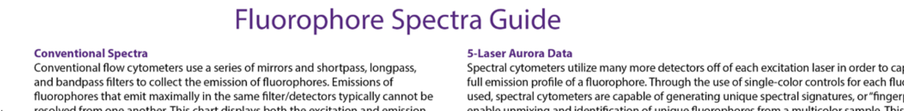
- APC
- Alexa Fluor® 647
- Spark NIR™ 685
- Alexa Fluor® 700
- APC/Cyanine7
- APC/Fire™ 750
- APC/Fire™ 810

Fluorophore Spectra Guide

Excitation Laser
The color and text (*i.e.* Violet 405 nm) indicates the laser line that best excites this fluorophore.

Conventional Spectra
Conventional flow cytometers use a series of mirrors and shortpass, longpass, and bandpass filters to collect the emission of fluorophores. Emissions of fluorophores that emit maximally in the same filter/detectors typically cannot be resolved from one another. This chart displays both the excitation and emission spectra for the fluorophore.

5-Laser Aurora Data
Spectral cytometers utilize many more detectors off of each excitation laser in order to capture the full emission profile of a fluorophore. Through the use of single-color controls for each fluorophore used, spectral cytometers are capable of generating unique spectral signatures, or "fingerprints", to enable unmixing and identification of unique fluorophores from a multicolor sample. This representative chart only displays the emission 'heat-map' as measured by the detectors on a 5-laser (Ultraviolet, Violet, Blue, Yellow/Green, Red) Aurora instrument from Cytek®.



Excitation Spectra
Indicated by a dotted line with no shaded area, this represents the excitation spectra of a fluorophore and what wavelengths of light are most likely to excite it.

Emission Spectra
Indicated by a solid line and shaded area, this represents the wavelengths of light a fluorophore is most likely to emit at once it has been excited. As emission spectra have less energy, they emit at longer wavelengths.

Brightness Index
The Brightness Index is a relative indication of fluorescence intensity above the background for each fluorophore antibody conjugation (1=dim, 5=brightest). These values should be used as a general reference tool, as several factors can influence a fluorophore's brightness, such as instrument settings, the density of the antigen target, and testing conditions.

The difference between the excitation and emission maxima of a fluorophore is referred to as a Stokes shift.

*Some fluorophores listed in the yellow/green laser section, such as PE and its tandems, can also be efficiently excited by the blue laser.

Download this poster at: **biolegend.com/en-us/fluorophore-poster**

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04-0008-02