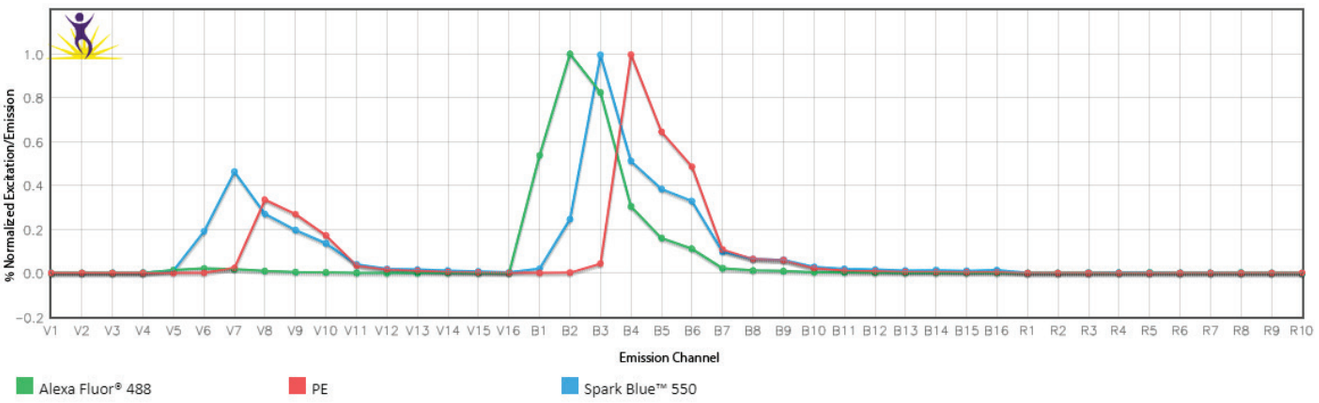
Spark Blue™ 550 and Spark NIR™ 685 Fluorophores

New Panel Options for Spectral Cytometers

Spectral cytometers and instruments that can integrate more than 22 parameters create an increased demand for fluorophores with unique spectra. To meet researchers' needs, BioLegend is releasing new fluorophores specifically designed for spectral cytometers, including Spark Blue™ 550 and Spark NIR™ 685.

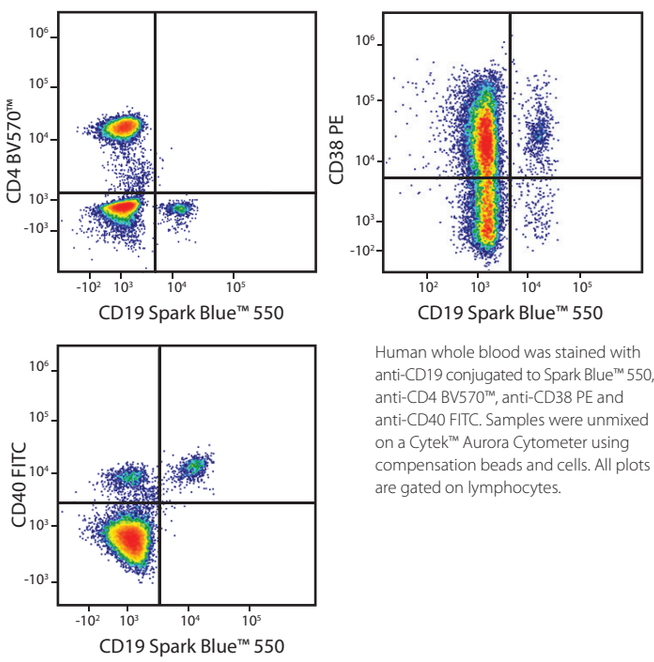
Spark Blue™ 550

Spark Blue™ 550 is an easy addition to a multicolor panel for a spectral unmixing cytometer like the Cytek™ Aurora or Northern Lights. It is excited off the 488 nm blue laser and emits at 550 nm, between the peak emissions of Alexa Fluor® 488 or FITC and PE (R-Phycoerythrin). Emission off the 405 nm violet laser further adds to the accuracy with which these fluorophores can be unmixed.



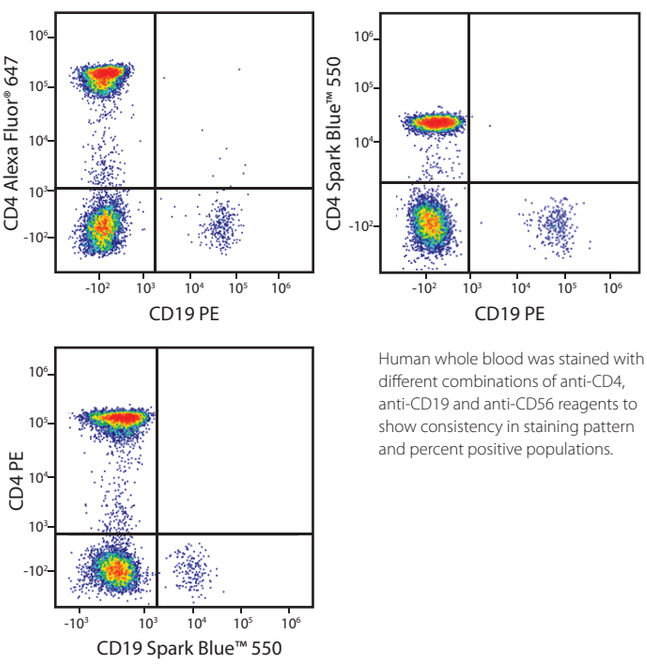
Spark Blue™ 550 is spectrally distinct enough to be used in conjunction with FITC and PE antibodies, whether they are detecting co-expressed or mutually exclusive antigens. Spark Blue™ 550 also has a brightness comparable to FITC. When using this dye to build multicolor panels, it will have the largest spreading error when plotted against FITC.

Spark Blue™ 550 can be distinguished from FITC and PE antibodies



Human whole blood was stained with anti-CD19 conjugated to Spark Blue™ 550, anti-CD4 BV570™, anti-CD38 PE and anti-CD40 FITC. Samples were unmixed on a Cytek™ Aurora Cytometer using compensation beads and cells. All plots are gated on lymphocytes.

Spark Blue™ 550 stains consistently and effectively



Human whole blood was stained with different combinations of anti-CD4, anti-CD19 and anti-CD56 reagents to show consistency in staining pattern and percent positive populations.

Learn more about the Spark fluorophores at: biolegend.com/spark

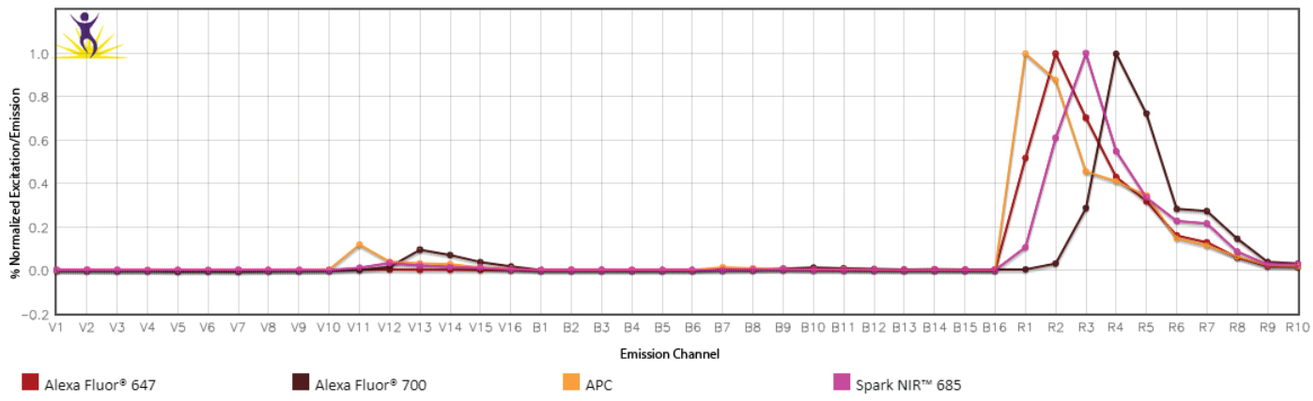
View the Aurora Spectra Analyzer at:
biolegend.com/en-us/aurora-spectra-analyzer

BioLegend®

Spark Blue™ 550 and Spark NIR™ 685 Fluorophores

Spark NIR™ 685

The 633 nm red laser has been limited to 2-3 fluors due to the fluors' wide emission spectras in the near infrared (NIR) range and the insensitivity of photomultiplier tubes (PMTs) to emission wavelengths over 800 nm. With the help of a spectral unmixing cytometer, the spectral gap between the emission peaks of APC and Alexa Fluor® 700 can be utilized as a detector for a new fluor like Spark NIR™ 685. Spark NIR™ 685 is optimally excited by the 633 nm red laser, emits maximally at 685 nm, and has a similar brightness to FITC. When using highly overlapping combinations of fluorophores (see panels A and B), spreading error from these antibodies in a bivariate must be considered, and panels should be built to match the proper fluor brightness with antigen expression.



Build multicolor panels with the help of our experts

As the number of parameters in flow cytometry multicolor panels continues to expand, planning for these experiments becomes more and more difficult. Talk with our technical support team of experts to plan your experiments, pick your fluorophores, and produce results. Email us at tech@biolegend.com.

Fluorophores validated simultaneously with a 3-laser Aurora instrument.

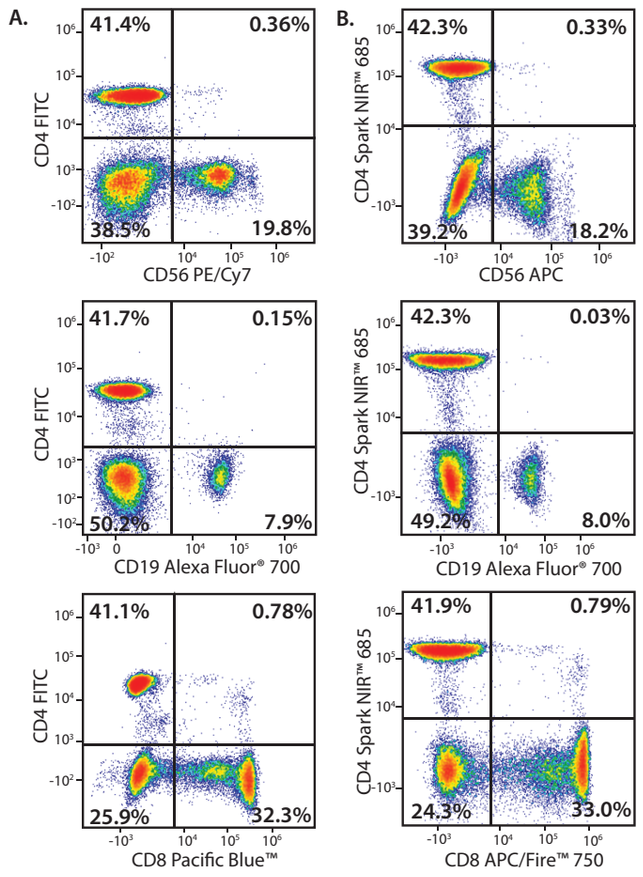
Violet 405 nm	Blue 488 nm	Red 633 nm
Brilliant Violet 421™	FITC or Alexa Fluor® 488	APC
Pacific Blue™	Spark Blue™ 550	Alexa Fluor® 647
Brilliant Violet 510™	PE	Spark NIR™ 685
Brilliant Violet 570™	PE/Dazzle™ 594	Alexa Fluor® 700
Brilliant Violet 605™	PE/Cyanine5	APC/Cyanine7 or APC/Fire™ 750
Brilliant Violet 650™	PerCP/Cyanine5.5	
Brilliant Violet 711™	PE/Cyanine 7	
Brilliant Violet 750™		
Brilliant Violet 785™		

Be sure to follow our multicolor staining guidelines during panel design for best results.

Build your multicolor panel at: biolegend.com/panelselector

Learn more at: biolegend.com/multicolor_staining

Build with Spark NIR™ 685 to expand panel options



Whole blood from the same donor was stained with either panel A or B. Panel A included antibodies for anti-human CD4 FITC, CD19 Alexa Fluor® 700, CD8 Pacific Blue™, CD3 PE, and CD56 PE/Cy7. Panel B included antibodies for anti-human CD4 Spark NIR™ 685 , CD19 Alexa Fluor® 700, CD8 APC/Fire™ 750, CD3 PE, and CD56 APC. Cells were washed and fixed with Fluorofix™ prior to analysis.