A white and black BD FACSDiscover S8 Cell Sorter with CellView. The machine is shown from a three-quarter front view. It has a large black front panel with a grid of small circular ports. A vertical blue light strip is visible on the right side of the machine. The background is a circular inset showing a blue space scene with various planets and stars.

BD FACSDiscover<sup>™</sup> S8  
with CellView<sup>™</sup>

# BD FACSDiscover<sup>™</sup> S8 Cell Sorter with BD CellView<sup>™</sup> Image Technology and BD SpectralFX<sup>™</sup> Technology

Get deeper insights with real-time imaging,  
spectral flow cytometry

# Achieve breakthrough discoveries with image-enabled cell sorting and advanced spectral flow cytometry

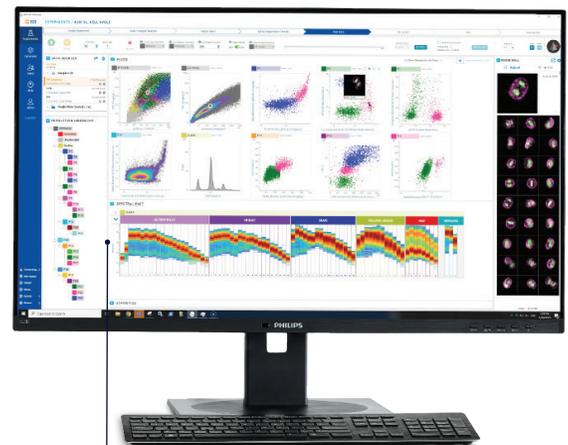
The BD FACSDiscover™ S8 Cell Sorter expands the power of cell analysis and sorting to new dimensions by combining spectral flow cytometry with real-time spatial and morphological insights—empowering scientists to address previously impossible-to-answer questions.

## BD CellView™ Image Technology

Expands the power of cell analysis and sorting by combining flow cytometry data with spatial and morphological insights

## Next Gen QC System

Delivers pre-set gains and reduces setup complexity



**Trusted Partner**  
Supported by over 45 years of flow cytometry expertise

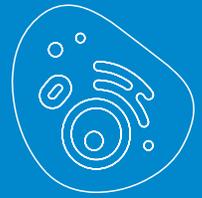
## BD SpectralFX™ Technology

Expands panel size and flexibility with 78 fluorescent detectors across five lasers with algorithmically optimized bandpass filters

Obtain insights on cell populations and characteristics that can be **visually confirmed in real time** during analysis and sorting



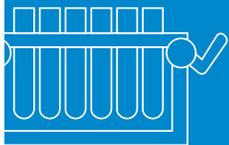
Enhance spectral flow cytometry with **spatial and morphological insights** to interrogate and sort cell types that previously could not be identified or isolated



**Index flow and cell imaging data** correlates immunophenotyping, imaging and downstream assay results



Attain **high-dimensional analysis** with up to five lasers and 78 fluorescent detectors, six image detectors on the blue laser, FSC and SSC detectors



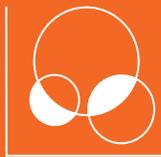
**Flexible sorting:** 6-way 5-mL sort, index sorting and additional format options including 96-well and 384-well plates and slides



Patented BD sorting technology features a **fixed-alignment gel-coupled cuvette** eliminating the need for operator to perform daily alignment and facilitating quick nozzle changes



Simplify your workflow with **built-in visual inspection capabilities, more flexible panel design, automated features and index sorting**



Combine **image features with flow parameters** for subset classification for statistical analysis and sorting



# Real-time image-enabled sorting

See what you sort. Sort what you see.

The BD FACSDiscover™ S8 Cell Sorter leverages BD CellView™ Image Technology, a novel high-speed imaging technology that facilitates analysis and sorting through real-time integration of image and flow data.

## BD CellView™ Image Technology



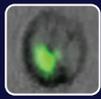
### IMAGING DETECTORS

Image detectors with fluorescent, scatter and light loss to visualize events in real time and at high speed

#### 3-color fluorescence imaging



LL



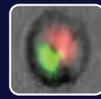
LL  
CH1



LL  
CH2



LL  
CH3



LL  
CH1  
CH2  
CH3



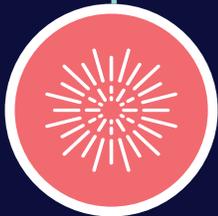
LL  
CH1  
CH2  
CH3

Light loss (LL)

CH1: GFP (Golgi)

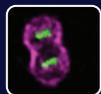
CH2: Surface Marker

CH3: DNA (DRAQ5™)



### NEW INSIGHTS

New insights and image-based applications help to address previously impossible-to-answer questions



Cell cycle



Cell synapse



Internalization



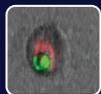
Label-free



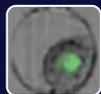
Marine biology



Morphology



Phagocytosis



Plant biology



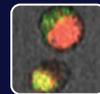
Polarization



Quality control



Tumor cell killing

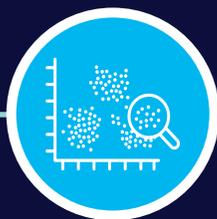


Co-localization



## CELL MORPHOLOGY

Explore cell morphology with internal and external spatial characteristics



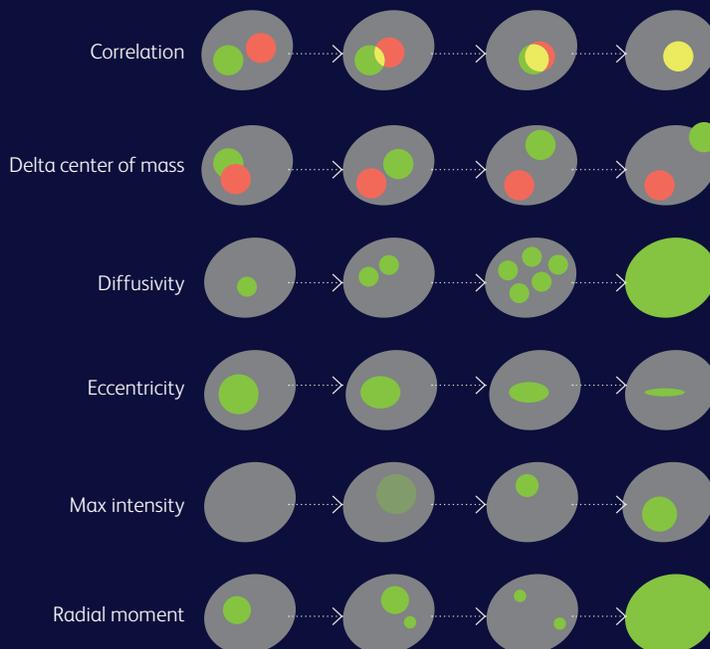
## SAMPLE QC

Visualize and confirm images in real time to obtain sample data for flow cytometry and downstream assays



## IMAGE FEATURES

Image features combined with traditional flow parameters open the door to new dimensions in single-cell analysis

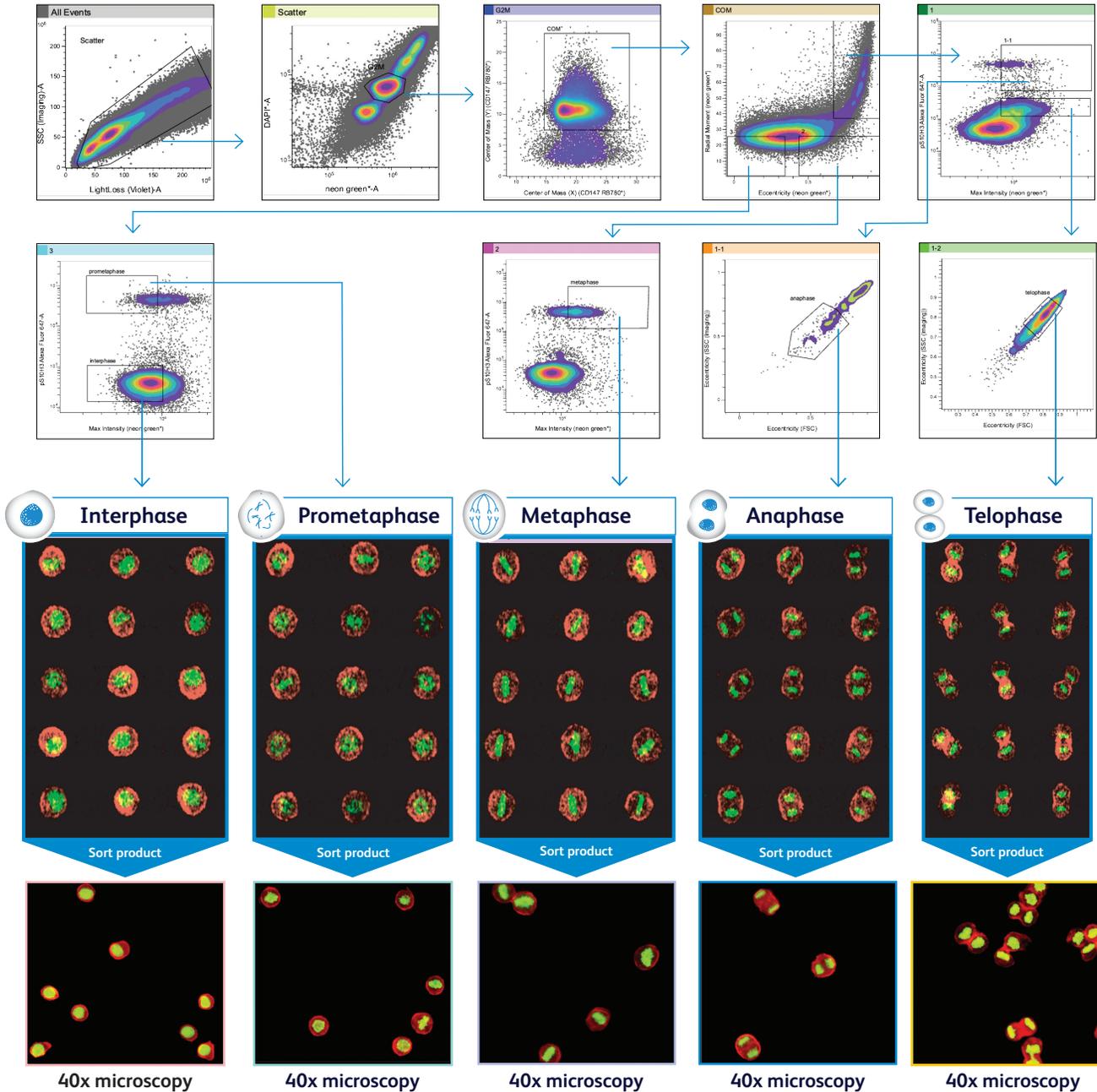


## ADDITIONAL IMAGE FEATURES

- Center of mass (X)
- Center of mass (Y)
- Forward scatter (FSC)
- Light loss (blue)
- Long moment
- Short moment
- Size
- Side scatter (SSC)
- Total intensity

# Cell cycle analysis

Image feature analysis can provide insight into DNA distribution and morphology to differentiate the phases of the cell cycle.



## Flow cytometry parameters used

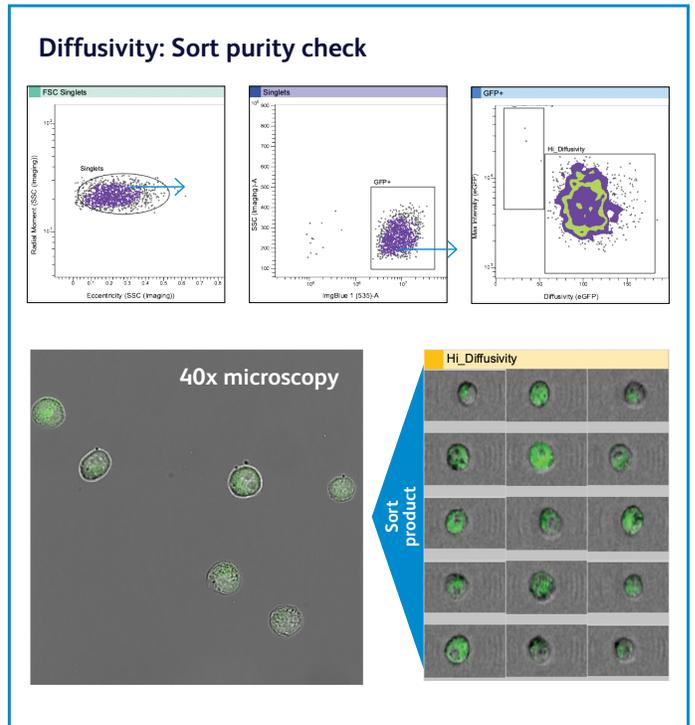
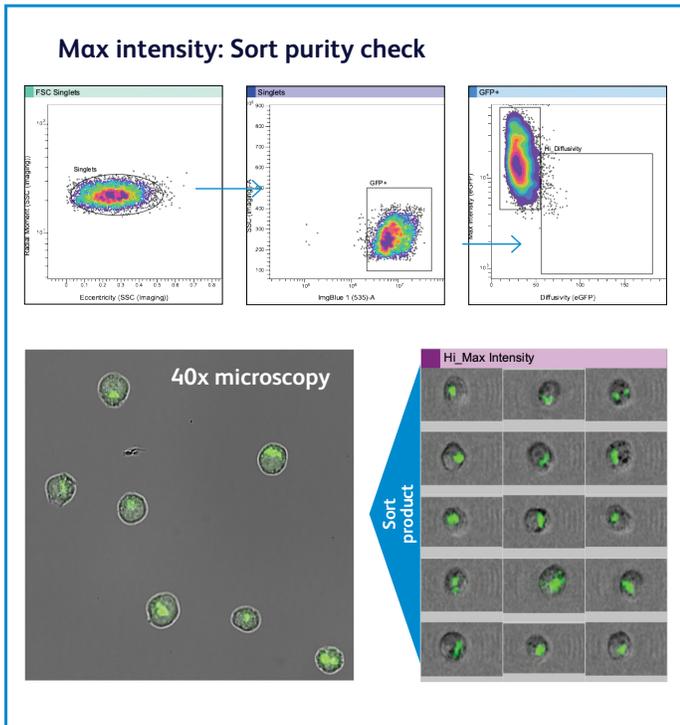
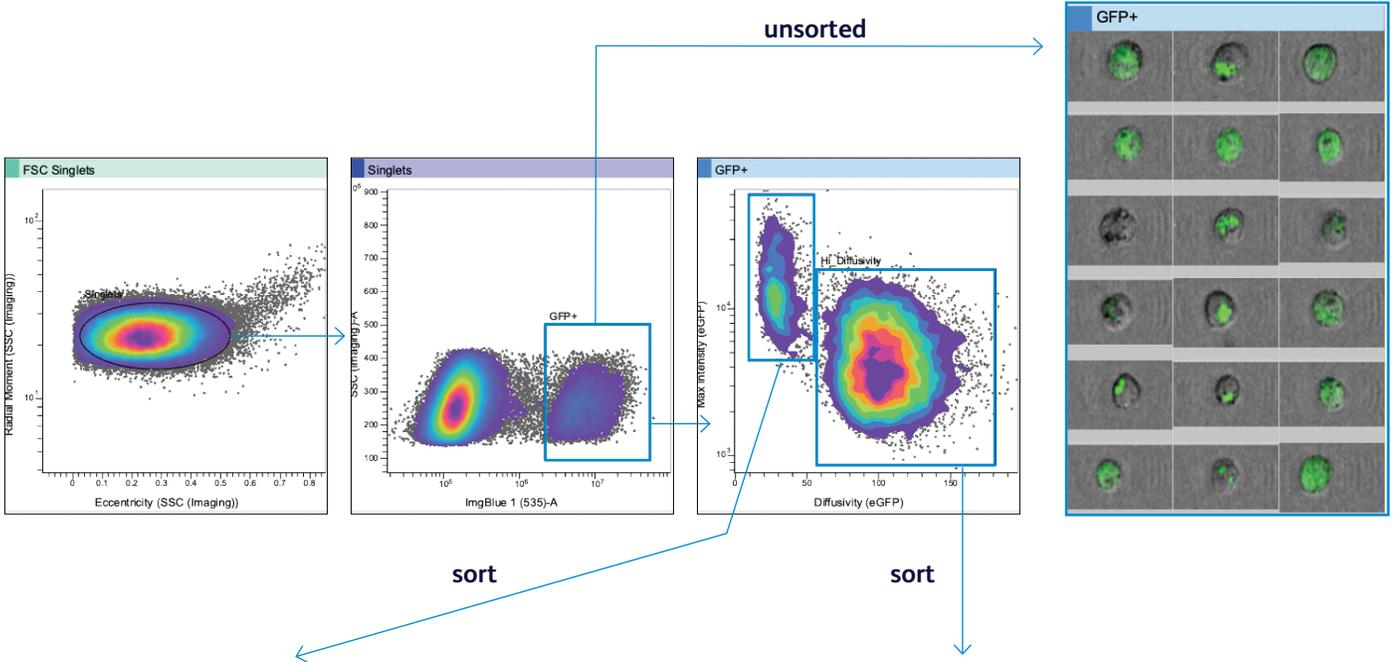
- DAPI-Area
- H2B (NeonGreen)-Area
- Alexa Fluor™ 647 (PS10H3)-Area

## Image features used

- Radial Moment-H2B (NeonGreen)
- Max Intensity-H2B (NeonGreen)
- Eccentricity-H2B (NeonGreen)
- Eccentricity-FSC
- Eccentricity-SSC

# Image-enabled cell sorting

Max intensity and diffusivity image features were used to sort HeLa cells (GFP+ Golgi apparatus) treated with BD FastImmune<sup>™</sup> Brefeldin A (BFA) Solution which exhibited a dispersed morphology.





# Explore your data with spectral flexibility using BD SpectralFX™ Technology

BD SpectralFX™ Technology combines full-spectrum optics, next gen QC and system-aware spectral unmixing that manages spread by adapting to instrument performance and sample conditions in real time.

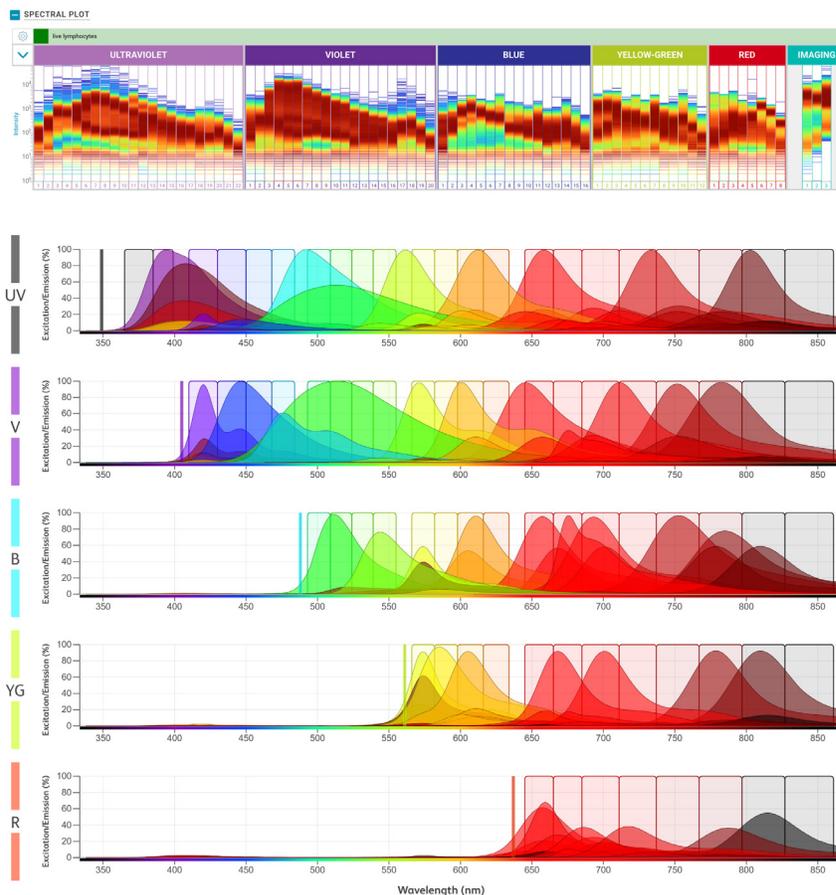


# Six-way sorting of deep immunophenotyping panel

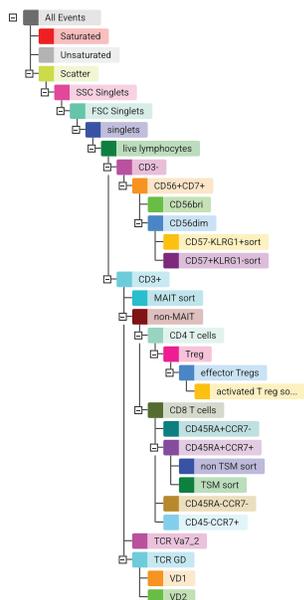
This 38-color spectral panel characterizes and sorts deep lineages of T cell and NK cell subsets.

The panel includes BD Horizon RealYellow™ and BD Horizon RealBlue™ Dye technology, engineered to work in tandem with the BD FACSDiscover™ S8 Cell Sorter for high-parameter spectral analysis to reveal biological information.

Laser	#	Fluorochrome	Marker
UV	1	BUV395	CD27
	2	FVS440UV	FVS440UV
	3	BUV496	CD8
	4	BUV563	CD16
	5	BUV615	CCR7 (CD197)
	6	BUV663	NKG2C
	7	BUV737	CCR5
	8	BUV805	CD161
Violet	9	BV421	PD1
	10	V450	CD7
	11	BV480	CD45RA
	12	BV510	CD15e
	13	BV570	CD57
	14	BV605	TCRgd
	15	BV650	TCR V-α24
	16	BV711	NKG2A
Blue	17	BV750	NKG2D
	18	BV786	CD28
	19	BB515	HLA-DR
	20	BB630	CD94
	21	BB660	CD194
	22	PerCP-Cy5.5	TCR Vg9
	23	BB700	TCR Vg7.2
	24	BB755	CD196
Yellow/Green	25	RB780	CD95
	26	RB545	CD3
	27	PE	CD25
	28	PE-Cy5	CD185
	29	PE-Cy7	CD38
	30	RYS86	KLRG1
	31	PE-Fire 810	CD39
	32	PE-eFluor 610	TCR VD1
Red	33	PE-Fire 700	CD127
	34	APC	TCR VD2
	35	R718	CD183
	36	APC-H7	CD4
	37	SNIR-685	CD56
	38	APC-Fire 810	CD14_CD19



## POPULATION HIERARCHY



- APC
- APC-H7
- APC-Fire™ 810
- BB515
- BB630-P2
- BB660-P2
- BB700
- BB755-P
- BUV395
- BUV496
- BUV563
- BUV615
- BUV661
- BUV737
- BUV805
- BV421
- BV480
- BV510
- BV570
- BV605
- BV650
- BV711
- BV750
- BV786
- PE
- PE-Cy5
- PE-Cy7
- PE-eFluor 610
- PE/Fire™ 700
- PE/Fire™ 810
- PerCP-Cy5.5
- R718
- RB545
- RB780
- RYS86
- Spark NIR™ 685
- V450

