BD Horizon™ Human T Cell Backbone Panel

Expand your T cell research with confidence

Introducing the BD Horizon™ Human T Cell Backbone Panel, a pre-optimized and flexible flow cytometry backbone panel specifically designed to expand your research with recommended fluorochrome drop-ins–offering panel design efficiency with minimal resolution impact.

More parameters, fewer challenges, increased flexibility

The development of larger multicolor panels has become critical to ensure deeper cell characterization. However, the expansion of existing flow cytometry panels remains challenging as researchers run the risk of introducing spillover spread that can compromise panel resolution and data quality. Ultimately, this can lead to a complete panel redesign, affecting assay cost and development time, and, more importantly, limit your ability to define cell biology more in depth.

What if you could expand your existing panel and worry less about panel design and resolution loss?

Now you can with the new BD Horizon™ Human T Cell Backbone Panel. This pre-optimized panel is strategically designed to enable the addition of up to five markers using defined fluorochromes, while maintaining optimal resolution and panel flexibility.

Panel features:

- Clear resolution of five core markers defining naive and memory subsets of CD4+ and CD8+ T cells
- Strategically designed to be complemented with up to five defined fluorochromes with no resolution impact into both the core and new markers
- Verified protocols to ensure optimal performance
- Consistent performance across instruments with different optical configurations
- Compatible with buffers and protocols used for intracellular detection of cytokines, transcription factors or phosphorylated proteins
- Verified flexibility enabling deeper investigation of different facets of T cell biology (activation, differentiation, polarization, Treg immunophenotype)

BD Horizon™ Human T Cell Backbone Panel Kit

Catalog No. 568263

Marker	Clone	Fluorochrome
CD3	UCHT1	BV510
CD4	SK3	BV786
CD8	RPA-T8	R718
CD45RA	HI100	PE-Cy7
CD197 (CCR7)	2-L1-A	BV711
BD Horizon™ Brilliant Stain Buffer is included to provide optimal staining.		

Examples of recommended drop-ins	
Laser line	**Fluorochromes**
Violet	BV421/V450/ Pacific Blue™
Blue	FITC/BB515/Alexa Fluor™ 488/PE
Yellow-green	PE/RY586
Red	APC/Alexa Fluor™ 647
UV	BUV395

Drop-in reagents not included in the backbone kit.

BB: BD Horizon Brilliant™ Blue Reagent, BUV: BD Horizon Brilliant™ Ultraviolet Reagent
BV: BD Horizon Brilliant™ Violet Reagent, R: BD Horizon™ Red Reagent
RY: BD Horizon RealYellow™ Reagent

The backbone panel can be expanded with no resolution impact.

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Backbone	
CD3	BV510
CD4	BV786
CD8	R718
CD45RA	PE-Cy7
CD197 (CCR7)	BV711

CD4+ Th Subset drop-ins		Catalog No.
CD194 (CCR4)	BV421	562579
CD196 (CCR6)	BB515	564479
CD183 (CXCR3)	PE	557185
CCR10	APC	564771
Live/Dead	7-AAD	559925

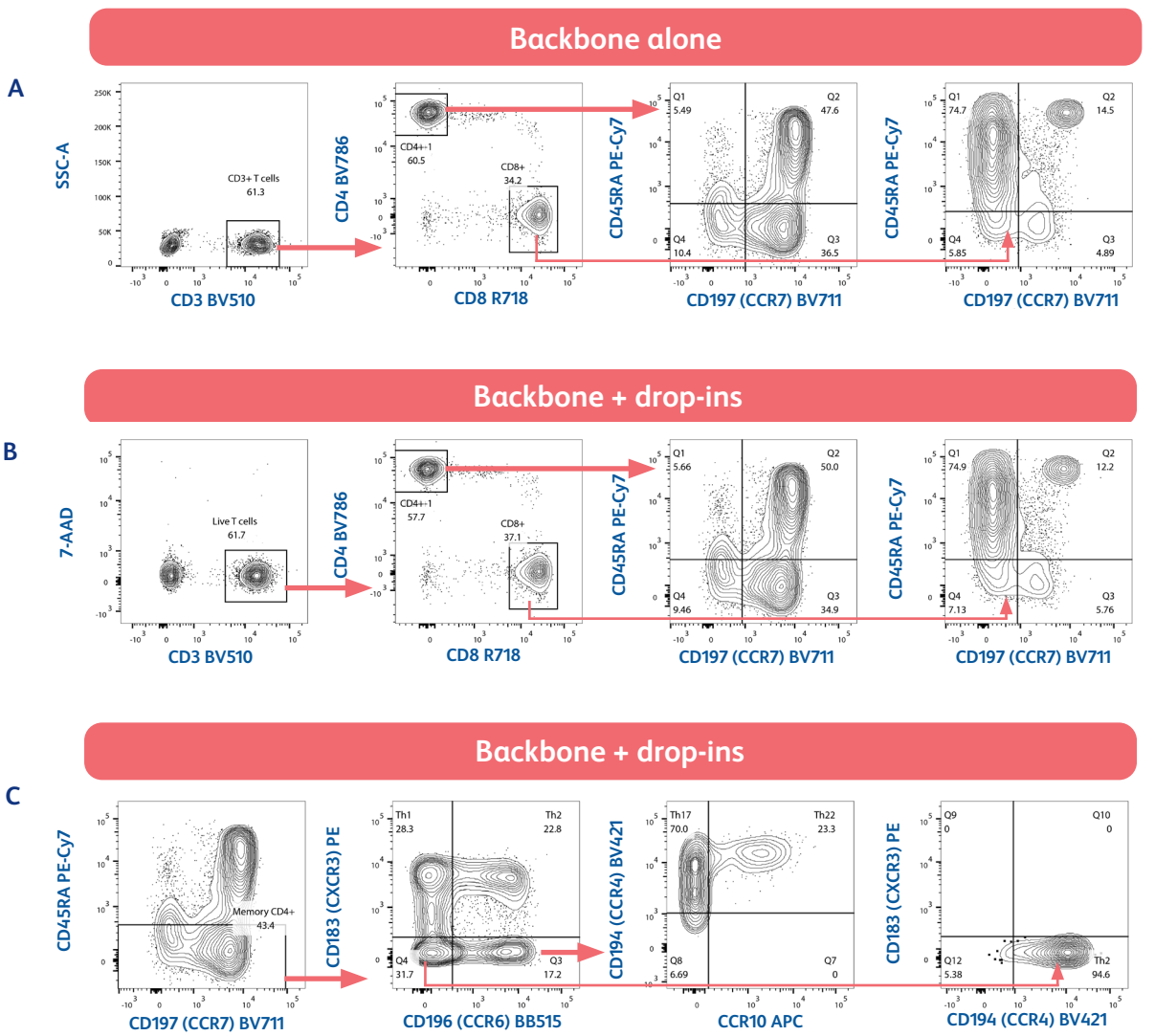

Figure 1. Verification of BD Horizon™ Human Backbone T Cell Panel performance.

A) The fluorochrome selection for the human backbone T cell panel provides good resolution of major T cell subsets. **B)** The addition of four drop-ins and a viability dye does not impact the resolution of the major T cell subsets. **C)** The recommended fluorochrome drop-ins provide optimal resolution and definition of CD4+ Th subsets. Data were generated on PBMCs from N = 2 healthy donors and run on a three 3-laser, 12-color BD FACSLyric™ Flow Cytometer.

The BD Horizon™ Human T Cell Backbone Panel Kit is compatible with intracellular flow cytometry.

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Backbone	
CD3	BV510
CD4	BV786
CD8	R718
CD45RA	PE-Cy7
CD197 (CCR7)	BV711

Drop-ins (intracellular)		Catalog No.
Proliferation	VPD 450	562158
IFN-gamma	FITC	552887
IL-2	PE	559334
TNF	APC	551384
Live/Dead	FVS620	564996

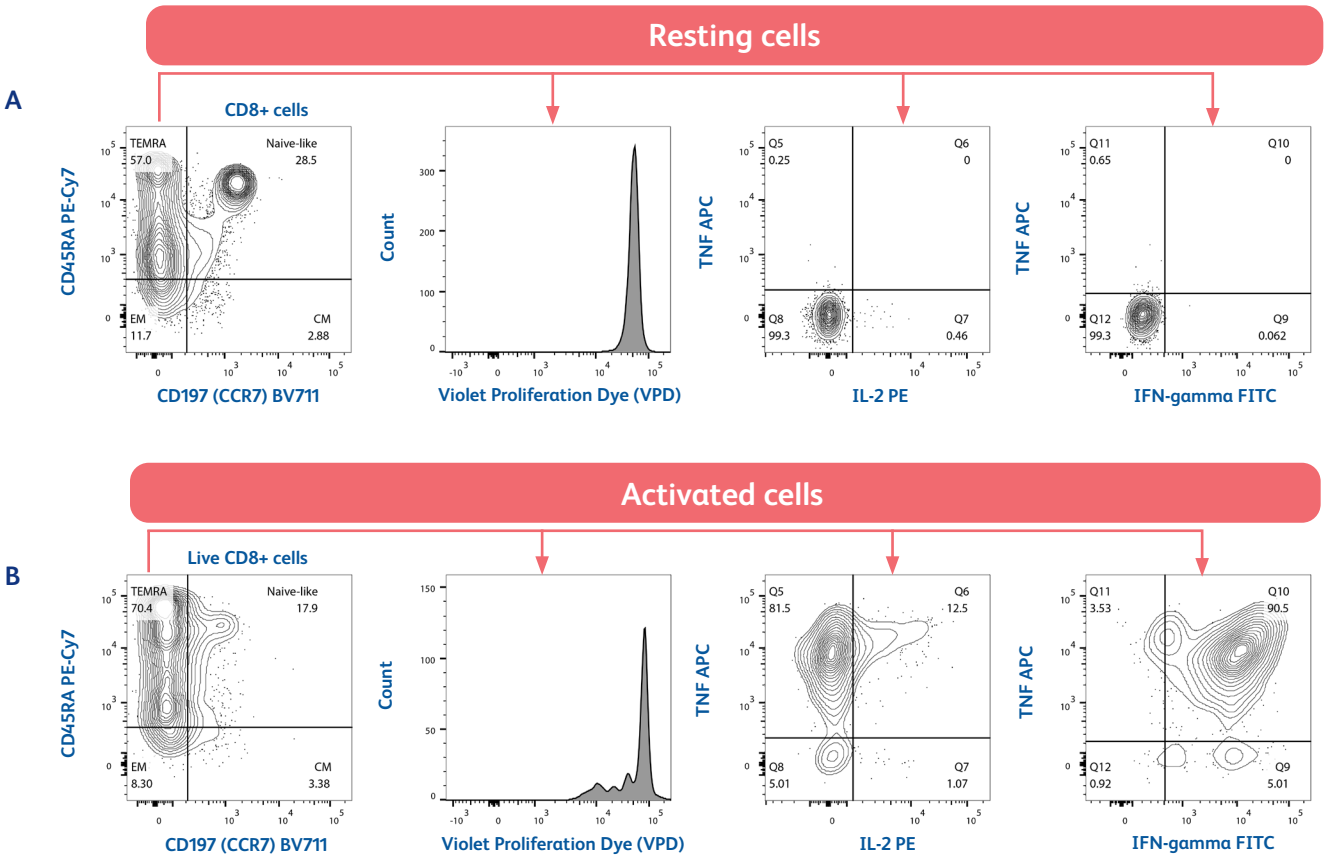
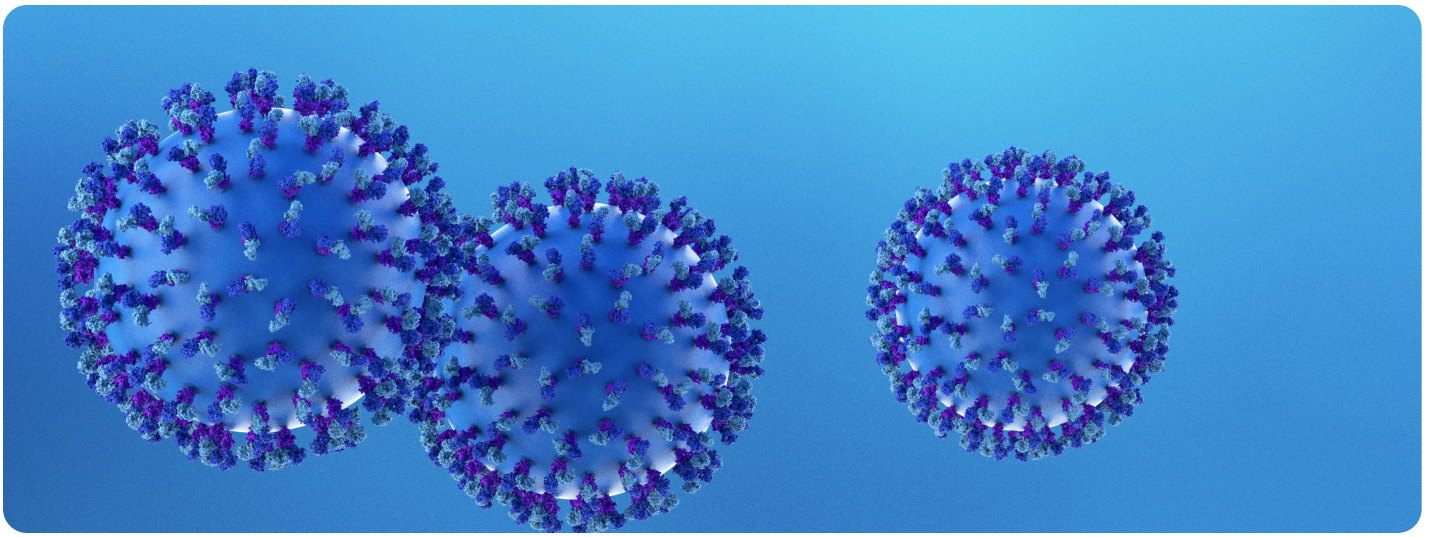


Figure 2. The BD Horizon™ Human T Cell Backbone Panel is compatible with intracellular flow cytometry.

A) Analysis of T cells cultured for three days in complete medium, in the absence of Dynabeads™ Human T-Activator CD3/CD28 and without further PMA/ionomycin stimulation. The backbone panel enabled identification of major T cell subsets. As expected, in the absence of any stimulation, terminally differentiated TEMRA cells do not proliferate and do not produce pro-inflammatory cytokines. **B)** Upon activation with Dynabeads™ Human T-Activator CD3/CD28 for three days and treatment with PMA/ionomycin and BD GolgiStop™ Protein Transport Inhibitor for four hours at 37 °C, T cell differentiation was observed as indicated by the reduction of naïve-like cells and increase in TEMRA cells. Dilution of the violet proliferation dye demonatrated TEMRA cell proliferation, while intracellular cytokine stain confirmed production of the three pro-inflammatory cytokines tested. Cells were stained with BD Horizon™ Violet Proliferation Dye 450 before being placed in culture. After three days, cells were stained with surface cocktail and FVS620 first, then treated with BD Cytofix/Cytoperm™ Buffer, as per manufacturer's recommendation, prior to intracellular stain. Samples were acquired on a BD FACSymphony™ A1 Flow Cytometer.



Expand your T cell research with confidence. Discover how at **bdbiosciences.com/tcellpanel**

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