



Miltenyi Biotec

Flow cytometry solutions

The MACSQuant[®] VYB



Excite the color that counts

Achieve pure analytical power

The yellow laser expands your possibilities

The MACSQuant® VYB is designed for maximal versatility

The MACSQuant® VYB delivers all the performance, automation, compactness, and convenience of the MACSQuant Analyzer but with a uniquely configured optical layout, featuring violet, yellow, and blue lasers. With this new optical layout in combination with ten optical detection channels, the MACSQuant VYB is a powerful and versatile flow cytometer for virtually every lab.

A richer dataset in less time

By incorporating a yellow 561 nm laser and ten optical detection channels, the MACSQuant VYB offers researchers a greater choice of fluorescent proteins and conjugates to perform sophisticated multicolor experiments.

- Analyze multiple fluorescent proteins at once, such as mCherry, DsRed, GFP, CFP, and many more.
- Profit from optimal PE sensitivity for enhanced detection of even PE^{dim} populations.
- Rely on an optical configuration optimized for the detection of all commonly used fluorochromes.
- Reliably detect APC signals and APC tandem dyes, such as APC-Vio770™, APC-Cy™7, or APC-H7 with the powerful 100 mW yellow laser.
- Obtain comparable stain indices and mean fluorescence intensities compared with red 635 nm laser systems.

Excitation laser	Channel (filter)	Antibody/parameter	Fluorescent protein
Violet 405 nm	V1 (450/50 nm)	VioBlue®	CFP
	V2 (525/50 nm)	VioGreen™	vGFP, GFP
Blue 488 nm	B1 (525/50 nm)	FITC	GFP, YFP
	B2 (614/50 nm)	PI	Lss-mKate
Yellow 561 nm	Y1 (586/15 nm)	PE	
	Y2 (615/20 nm)	PE-Texas Red®	mCherry, DsRed, tdTomato
	Y3 (661/20 nm)	PE-Cy5/APC	mKate
	Y4 (750 nm/LP)	PE-Vio770/APC-Vio770	mPlum
Yellow 561 nm	FSC (561/10 nm)	Forward scatter	
	SSC (561/10 nm)	Side scatter	

Table 1: Optical configuration of the MACSQuant VYB.



“These results [...] demonstrate the ability of the MACSQuant VYB to resolve multiple fluorescent proteins and organic dyes at the same time.”

Kueh, H. Y. and Diamond, R.
(2012) MACS&more 14-1: 8–10.

Minimal compensation

Combine fluorescent protein reporters with antibody surface stainings with ease. With PE detection from the yellow 561 nm laser and FITC or GFP detection from the blue 488 nm laser, there is little need for compensation with the MACSQuant VYB.

Optimal PE performance

PE detection from the yellow 561 nm laser means greater sensitivity for the discrimination of dim populations and improved detection with PE tandems such as PE-Vio770 or PE-Cy5.

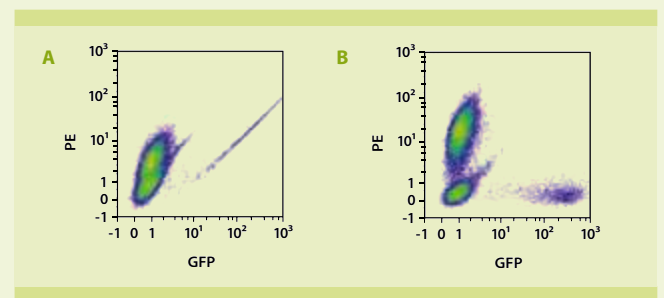


Figure 1: Cells expressing GFP under an Oct4 promoter and stained for Anti-Feeder-PE, a dim marker for fibroblasts, were analyzed using the MACSQuant VYB. Excitation of both PE and GFP with the blue 488 nm laser only minimally resolves the two signals (A). In comparison, excitation of PE by the yellow 561 nm laser and of GFP by the blue 488 nm laser fully resolves these two signals without the need for any compensations (B).

Discover greater versatility

Multicolor analysis broadens your research horizons

Achieve new answers

Discriminate APC populations with ease

With four-laser functionality in a three-laser instrument, there are no constraints in your choice of fluorescent proteins and conjugates.

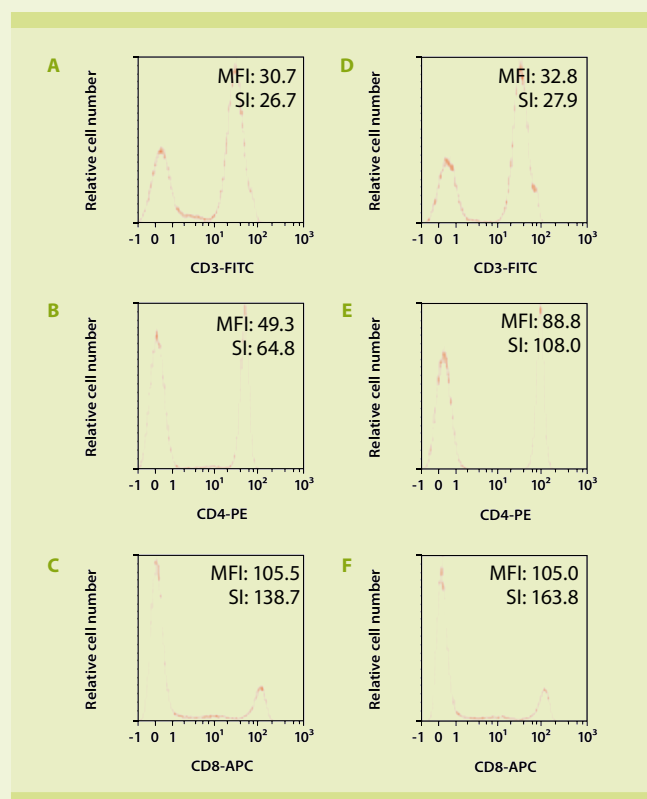


Figure 2: Lymphocytes were stained with CD3-FITC, CD4-PE, and CD8-APC. The MACSQuant Analyzer 10 uses the blue 488 nm laser for excitation of FITC and PE, and the red 635 nm laser for APC (A–C), while the MACSQuant VYB uses the blue 488 nm laser for FITC only, and the yellow 561 nm laser for PE and APC (D–F). APC resolution with the yellow 561 nm laser is equal to the resolution from a red 635 nm laser. MFI: mean fluorescence intensity; SI: stain index.

Classical immunophenotyping

The MACSQuant® VYB allows researchers to perform elaborate multiplex investigations by detecting a greater number of colors simultaneously. This leads to the acquisition of more meaningful data in less time.

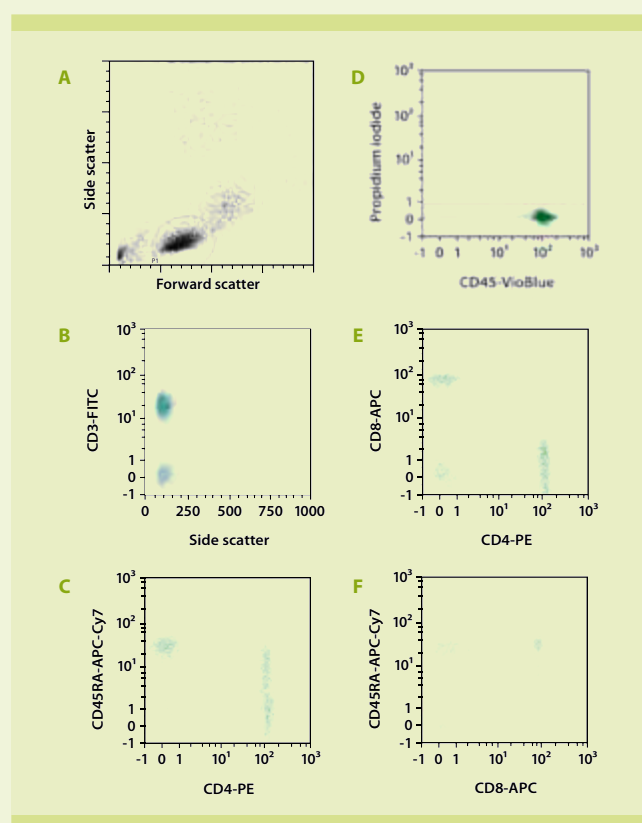


Figure 3: Classic immunophenotyping of peripheral blood stained with a panel of six standard dyes and antibodies (B–F): propidium iodide (PI), CD45-VioBlue, CD3-FITC, CD4-PE, CD8-APC, and CD45RA-APC-Cy7.

Rare cell analysis without the waiting

Save time without compromising on the quality and sensitivity of your rare cell analyses. With the MACSQuant Instruments you can easily enrich rare cell populations prior to multiparametric cell analysis.

- Significantly reduce lengthy acquisition times.
- Deliver highly sensitive rare cell analysis.
- Allow easy analysis of particularly challenging cell samples, such as rare cell populations in high volumes of buffer, or precious low volume samples.

Product	Order no.
Instruments	
MACSQuant VYB	130-096-116
MACSQuant Analyzer	130-092-197
MACSQuant Analyzer 10	130-096-343
MACS MiniSampler	130-092-535
Service contracts	
MACSQuant VYB Full Service L	160-001-637
MACSQuant Full Service	160-001-286

Product	Order no.
Accessories	
Chill 5 Rack	130-092-951
Chill 96 Rack	130-094-459
MACSQuant Columns	130-094-458
MACSQuant Calibration Beads	130-093-607
MACSQuant Running Buffer	130-092-747
MACSQuant Washing Solution	130-092-749
MACSQuant Storage Solution	130-092-748
MACSQuant Washing & Storage Solution Kit	130-092-801
MACS Bleach Solution	130-093-663
MACSQuant Starting Buffer Kit	130-094-190

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