



Miltenyi Biotec

The MACSQuant[®] Dx

Designed for consistency and standardization



Confidence in clinical flow cytometry

The MACSQuant Dx combines the power of compactness, automated features, and standardization and is the heart of our integrated solution for advanced flow cytometry in the regulated environment. Being designed and manufactured under a quality system certified to ISO 13485, the MACSQuant Dx comes with clinical instrument quality, allowing you to be confident in your flow cytometry results within both manufacturing processes and diagnostic procedures.

Advanced analysis

With 16 optical detection channels and automated features, the MACSQuant Dx facilitates the setup of multiparameter analysis.

Standardization

Efficiently generate highly reproducible data by using Express Modes with predefined analysis settings and tailored gating strategies.

GMP compliance

The 21 CFR Part 11 module of our MACSQuantify™ Software provides you with features essential for achieving GMP compliance.

Integrated solution

Instruments, software, and reagents are perfectly tuned to streamline your workflows.

Service

24/7 service options provide you with the confidence needed to scale up your clinical flow cytometry.







Reliable



CE-IVD



Express Modes

MACSQuant Dx technical specifications

Optics	
Laser excitation	Spatially separated: 405 nm, 65 mW diode 488 nm, 50 mW DPSS (diode pumped solid state) 640 nm, 72 mW diode
Emission detectors	FSC 488/10 nm
	SSC 405/10 nm
	V1 450/50 nm
	V2 525/50 nm
	V3 579/34 nm
	V4 615/20 nm
	V5 667/30 nm
	B1 525/50 nm
	B2 579/34 nm
	B3 615/20 nm
	B4 667/30 nm
	B5 725/40 nm
	B6 785/62 nm
	R1 667/30 nm
	R2 725/40 nm
	R3 785/62 nm
Scatter resolution	Scatter performance is optimized for resolving human peripheral blood lymphocytes, monocytes, and granulocytes.
Flow cell dimensions	200 × 250 µm
Fluorescence detectors	Optimized with spectrally matched PMTs for all channels
Optical alignment	Fixed tree-like configuration, no user adjustments needed
Laser spot size	15 × 45 µm

Performance		
Absolute counts performance	Accuracy ¹ Repeatability ²	R ² ≥0.98 CV ≤10%
Sample carryover ³	<0.1%	

Fluidics	
Minimum sample volume	10 µL
Minimum sample particle size	1 µm
Sample flow rate	25–100 µL/min plus automated flow rate to maintain 500, 1,000, or 2,000 events/second
Sheath fluid consumption	<10 mL/min
Maximum event rate	Up to 15,000 events/second

¹ CD45⁺ leukocyte count correlation, 100 µL whole blood (lysed and stained according to the Immune Cell Composition Kit) compared to a measurement of whole blood on a Sysmex XN1000 according to the respective user manual.

² 25 µL uptake volume (10⁷ leukocytes/mL) in standard mode.

³ Ratio of counts from a blank sample (buffer) and a leukocyte sample (10⁷ cells/mL), measured in standard mode with an uptake volume of 100 µL.

Multiparameter analyses on MACSQuant Dx

Immune Cell Composition Kit for *in vitro* diagnostic use

CE-marked IVD reagent kit for your diagnostic workflow

The Immune Cell Composition Kit allows for the enumeration and identification of human leukocyte (CD45⁺) subsets of individuals suspected of having immune deficiencies or of patients during cellular therapy. The kit consists of 8 monoclonal antibody conjugates, 7-AAD staining solution, and a red blood

cell lysis solution. All antibodies are recombinantly engineered antibodies (REAffinity™) enabling high reproducibility. Additionally, these antibodies carry a mutated Fc part, making an Fcγ receptor blocking unnecessary.

By using the application-specific Express Mode, pre-defined settings and a gating hierarchy are applied allowing a convenient sample analysis.

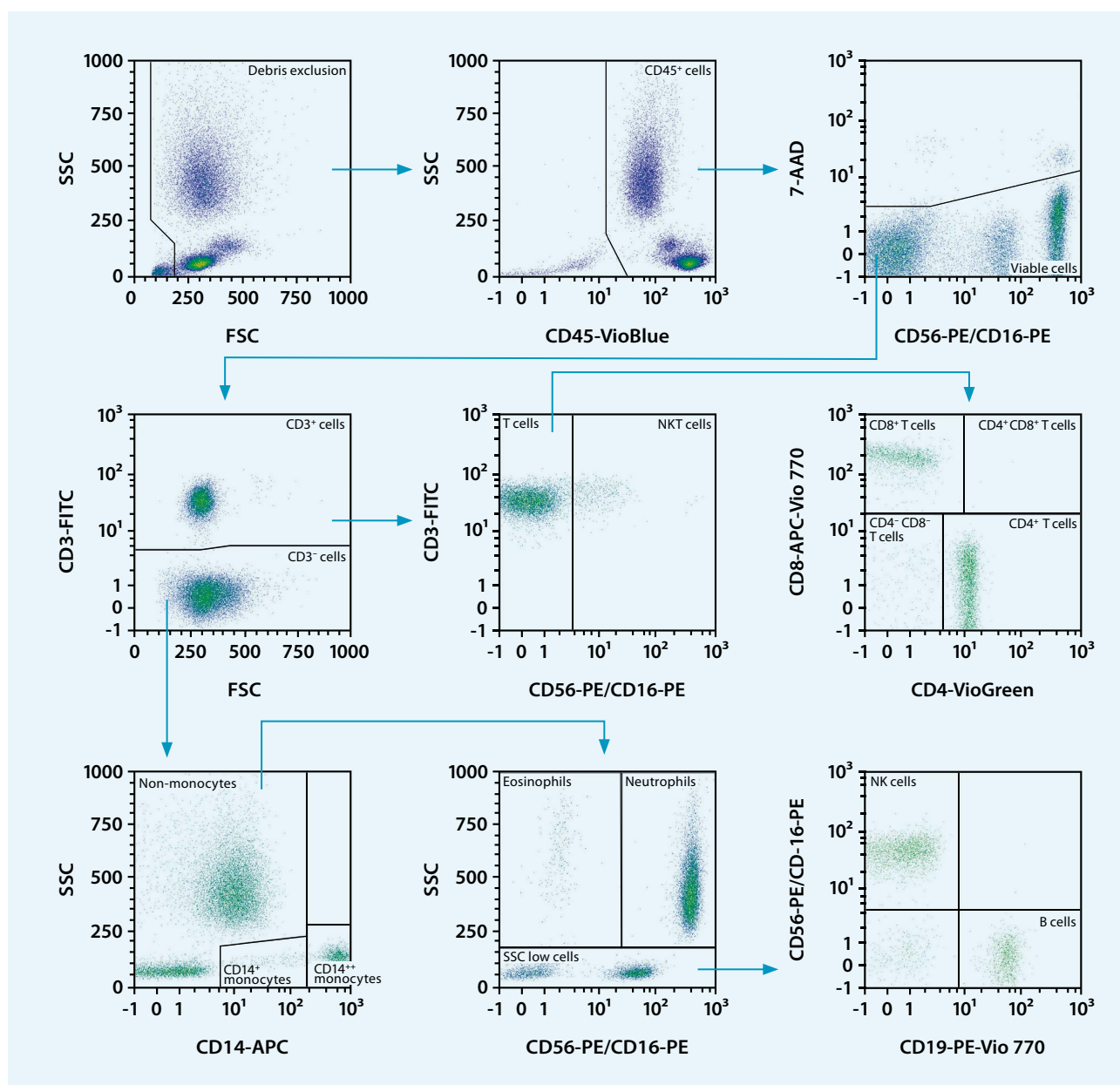


Figure 1: A human whole blood sample was stained with the Immune Cell Composition Kit (CD45-VioBlue®, CD4-VioGreen™, CD3-FITC, CD16-PE, CD56-PE, CD19-PE-Vio® 770, CD14-APC, and CD8-APC-Vio® 770) and analyzed by flow cytometry using the kit-specific Express Mode.

Products

Instrument, reagents, and further equipment

Products for <i>in vitro</i> diagnostic use	Order no.
Instrument	
MACSQuant Dx	170-082-000
Reagent Kit	
Immune Cell Composition Kit	170-080-065



Products for research use only	Order no.
Further equipment	
Chill 5 Rack	130-092-951
MACS® MiniSampler Plus (incl. cover)	130-105-745
Consumables	
MACSQuant Calibration Beads	130-093-607
MACS Comp Bead Kit, anti-REA	130-104-693
MACSQuant Running Buffer	130-092-747
MACSQuant Washing Solution	130-092-749
MACSQuant Storage Solution	130-092-748





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