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A Quantum Leap In Benchtop Flow Cytometry

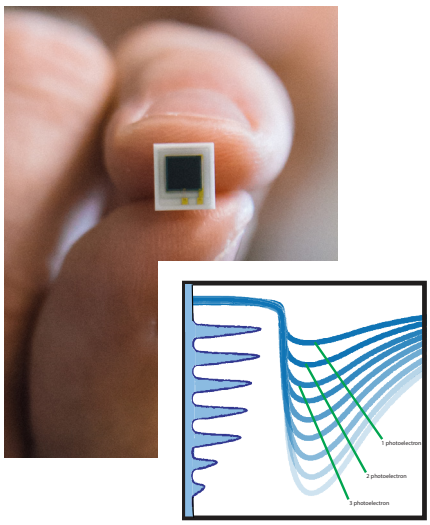
The Agilent NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon

The NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon flow cytometers build on its successful predecessor, the NovoCyte, to provide an expanded set of capabilities that accommodate today's high-end and increasingly sophisticated multi-color flow cytometry assays. You now have the flexibility to choose from up to 30 fluorescence channels utilizing up to 5 lasers with up to 30 independent detectors. The NovoSampler Q, which can be integrated into different laboratory automation platforms, efficiently processes both FACS tubes (using a 40-tube rack) and 24-, 48-, 96-, and 384-well plates. The intuitive and industry-leading NovoExpress software has been further advanced, providing an exceptional user experience in data acquisition, analysis and reporting.

- Expanded flexibility with up to 30-color options using up to 5 lasers
- High-sensitivity and resolution
- Intuitive and powerful software for data acquisition, analysis, and reporting
- Smart-design functionalities and walk-away operation to simplify your workflow
- Automation-ready capability for high-throughput needs
- Wide, 7-log dynamic range eliminates the need for routine detector adjustments

The Sensitivity You Demand

Silicon Photomultiplier (SiPM) — The ultimate photodetector



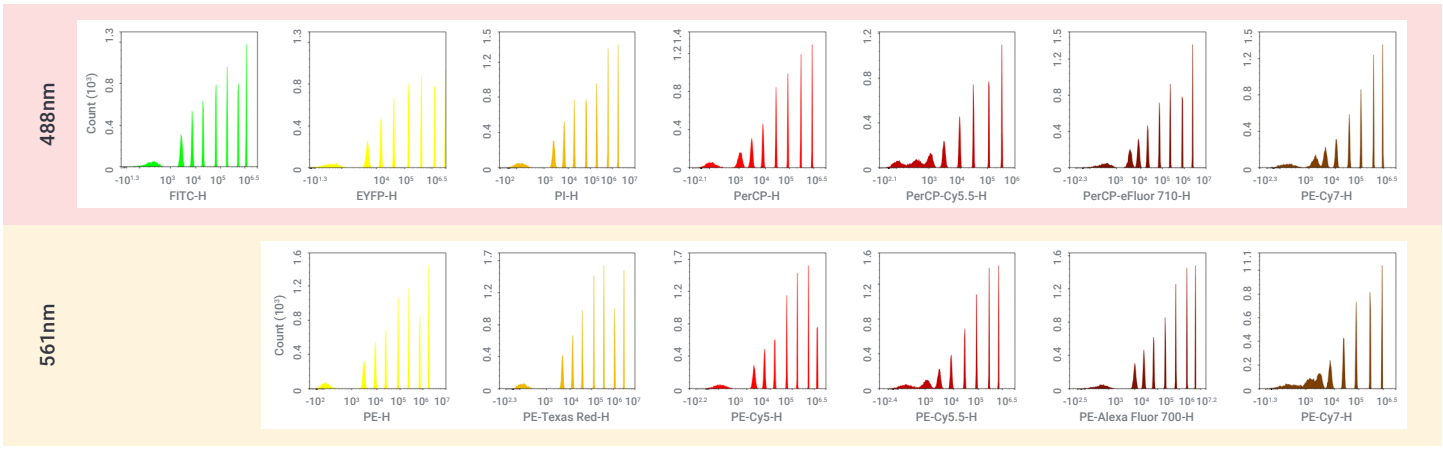
What is a SiPM?

Silicon photomultipliers (SiPM) are solid-state, semiconductor devices. Consisting of a compact array of avalanche photodiodes operating in unison, SiPM is a detector with photon counting capability. An innovative optical design in the NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon incorporates up to 30 independent SiPM for collecting and processing signals for each of its fluorescence channels.

This high-sensitive detector provides more confidence so you can detect even the dimmest signals in your sample.

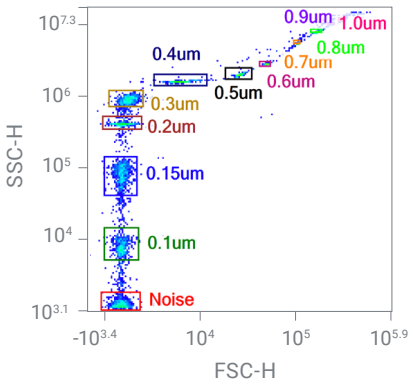
SiPM's strengths:

- Photon detection sensitivity
- High-gain and high-quantum efficiency
- Instantaneous warm-up and fast response
- Robust and long lifespan
- High-durability



FSC/SSC detection resolution

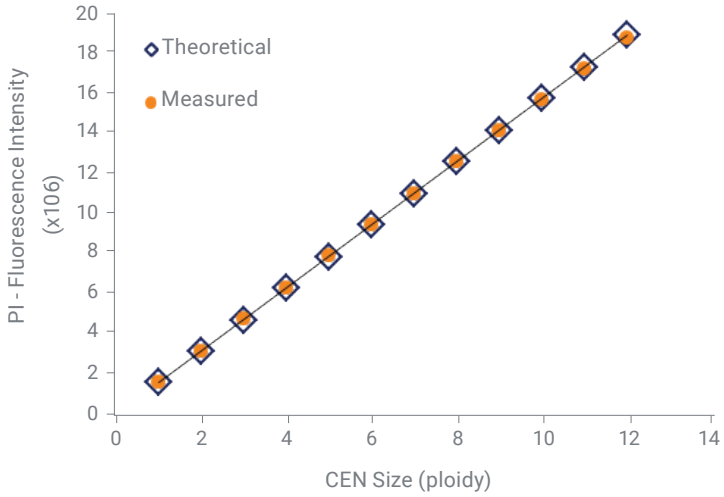
NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon FSC/SSC detection optics and signal processing electronics have been optimized to resolve particles as small as 0.1 µm. With this high-resolution, platelets, bacteria, and various sub-micron particles can be readily identified and analyzed.

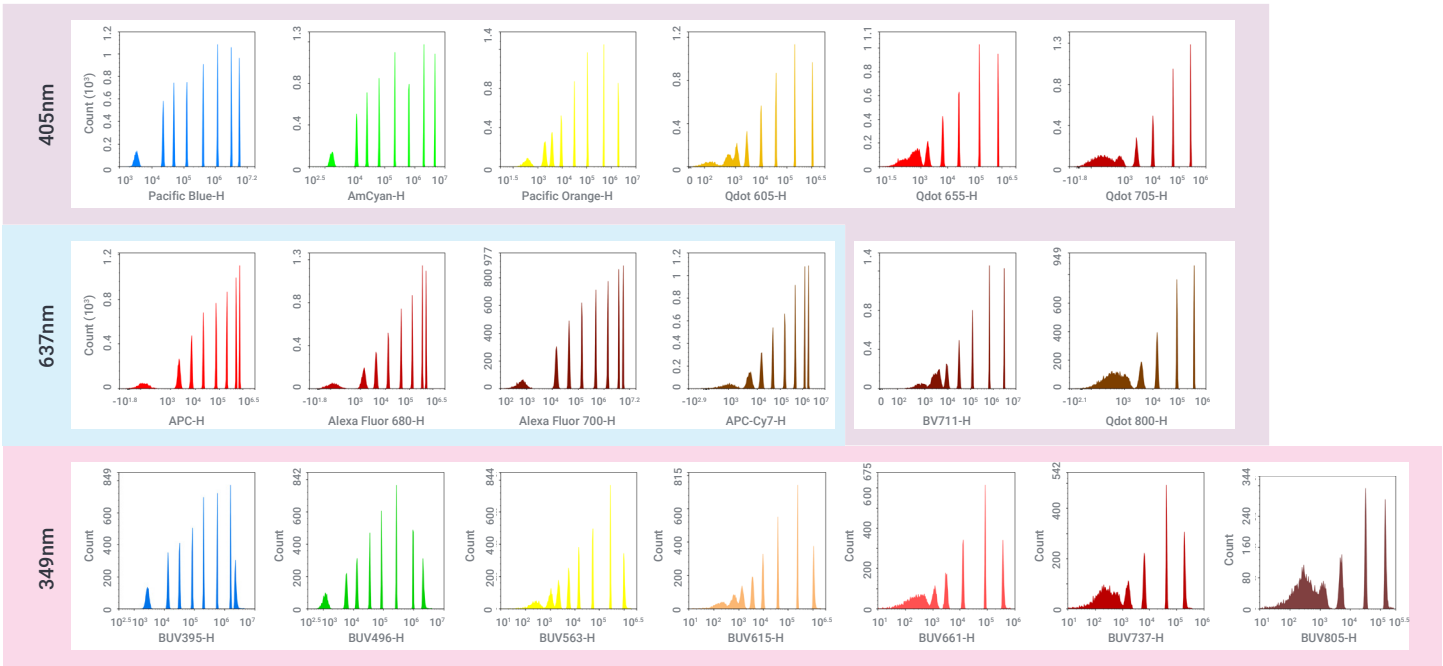


Confidently quantify fluorescence signals

The optical and electronic subsystems are the result of state-of-the-art engineering. This design enables the NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon to deliver a highly linear detection signal response for all channels across a wide dynamic range.

To demonstrate the detection linearity, Chicken Erythrocyte Nuclei (CEN) ploidy was measured in relation to the mean fluorescence intensity of Propidium Iodide (PI) staining.



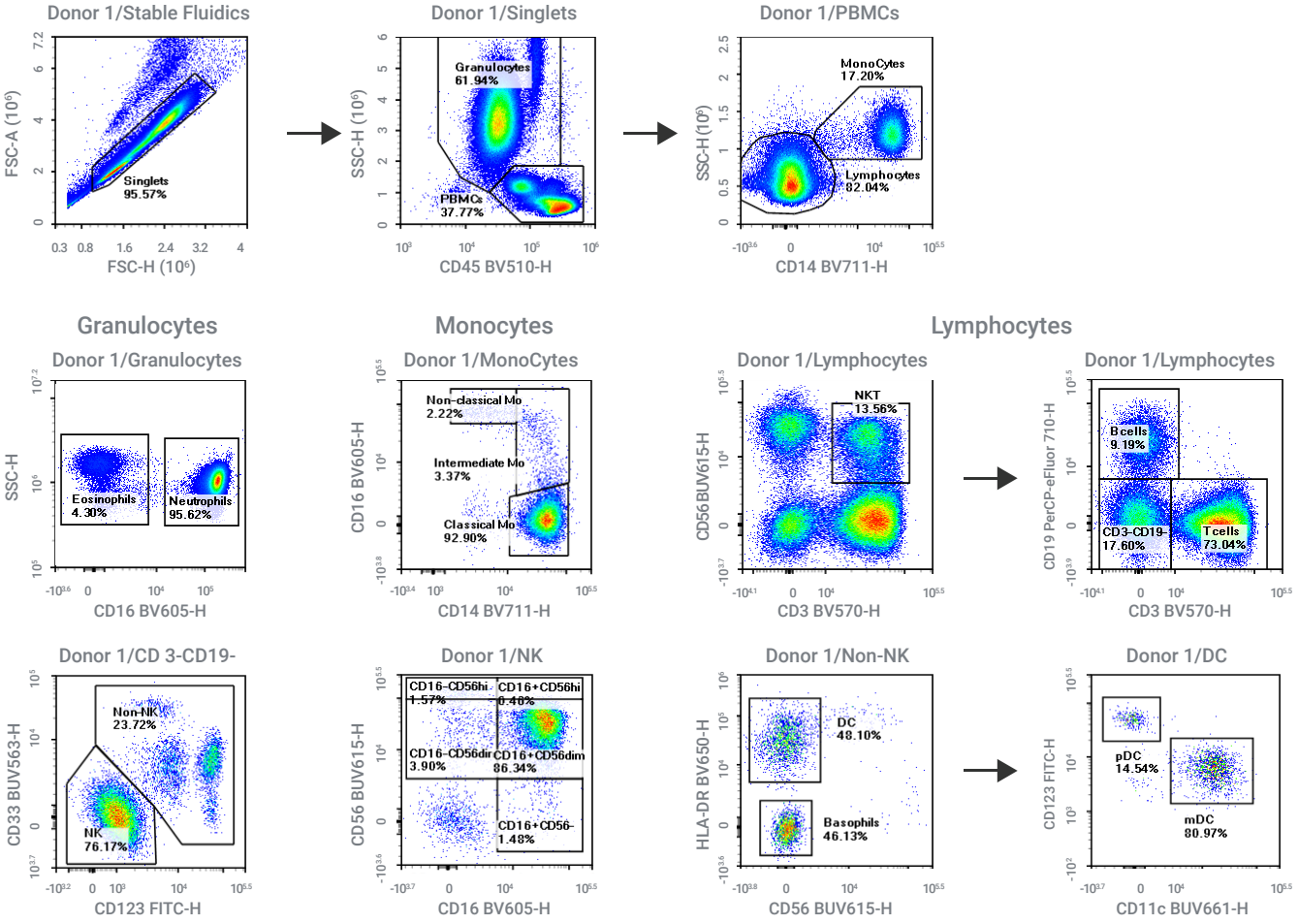


Expand Your Capabilities

Comprehensive 24-color immune cell phenotyping panel in peripheral human blood

A human immune cell panel was run on the NovoCyte Penteon identifying all major immune cell subsets in human peripheral blood including T cells, B Cells, natural killer (NK) cells, monocytes, and dendritic cells. Included in this panel were markers for T cell functional chemokine receptors and activation markers, which facilitates further in-depth characterization of T cells.

Equipped with up to 30 fluorescence channels from up to five lasers (349, 405, 488, 561, and 637 nm) the NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon offer tremendous flexibility in panel design. Optimized detector settings eliminate the need for complicated and laborious adjustments, making data acquisition as simple as load-and-go.



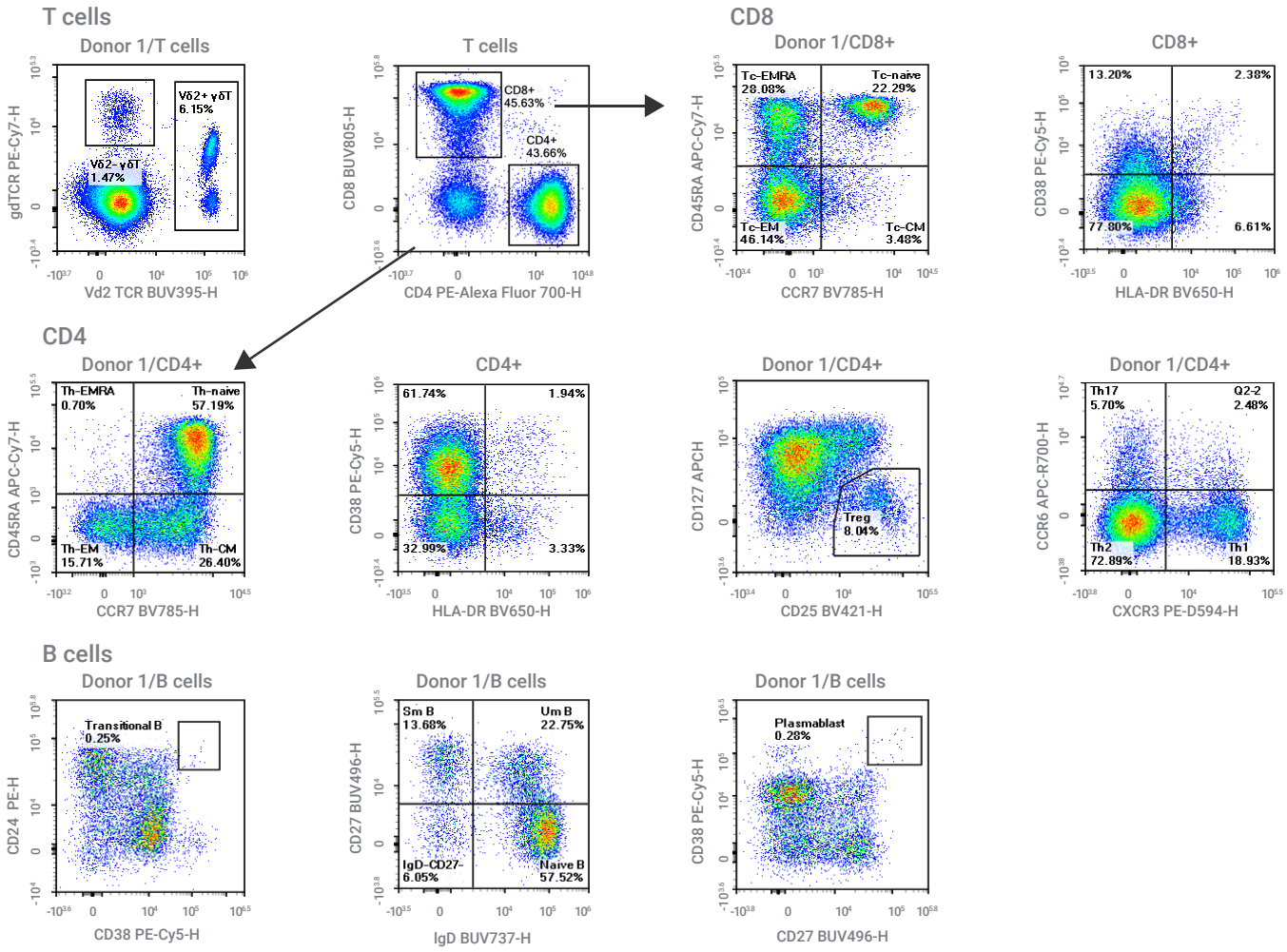
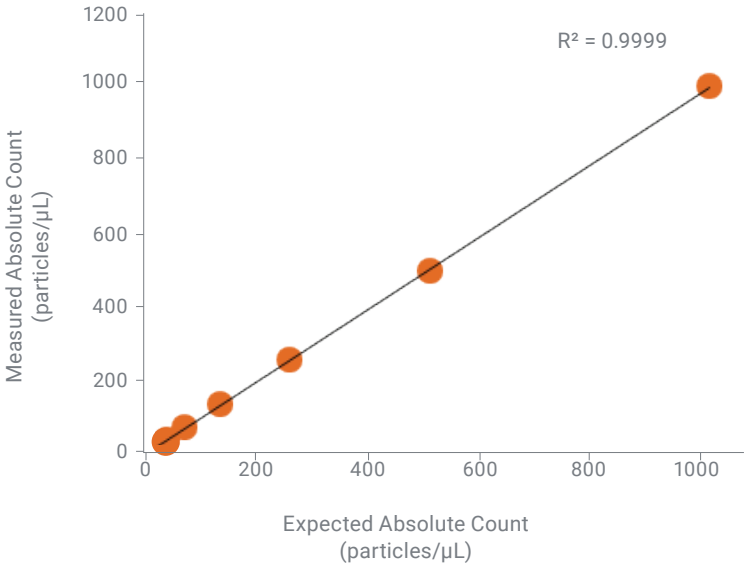


Figure 1 Legend: Identification of immune cells in peripheral human blood with a 24-color immunophenotyping panel on the NovoCyte Penteon. Whole blood was stained with Vδ2 TCR-BUV395, CD27-BUV496, CD33-BUV563, CD56-BUV615, CD11c-BUV661, IgD-BUV737, CD8-BUV805, CD25-BV421, CD45-BV510, CD3-BV570, CD16-BV605, HLA-DR-BV650, CD14-BV711, CCR7-BV785, CD123-FITC, CD19-PerCP-eF710, CD24-PE, CXCR3-PE-Dazzle 594, CD38-PE-Cy5, CD4-PE-AF700, γδ TCR-PE-CY7, CD127-APC, CCR6-APC-R700, CD45RA-APC-Cy7 antibodies. After staining, samples were acquired on the NovoCyte Penteon and analyze on NovoExpress. Hierarchical gating was used to identify all major cell subsets in human blood.

Direct absolute cell count makes reference beads obsolete

NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon use a high-accuracy syringe pump to directly drive the sample and provide accurate, absolute count results in every run. Why use reference beads when you don't need them?

- The volumetric absolute count is determined for each and every sample automatically
- Complicated calibration of the fluidics system is not required
- Expensive reference beads are not required



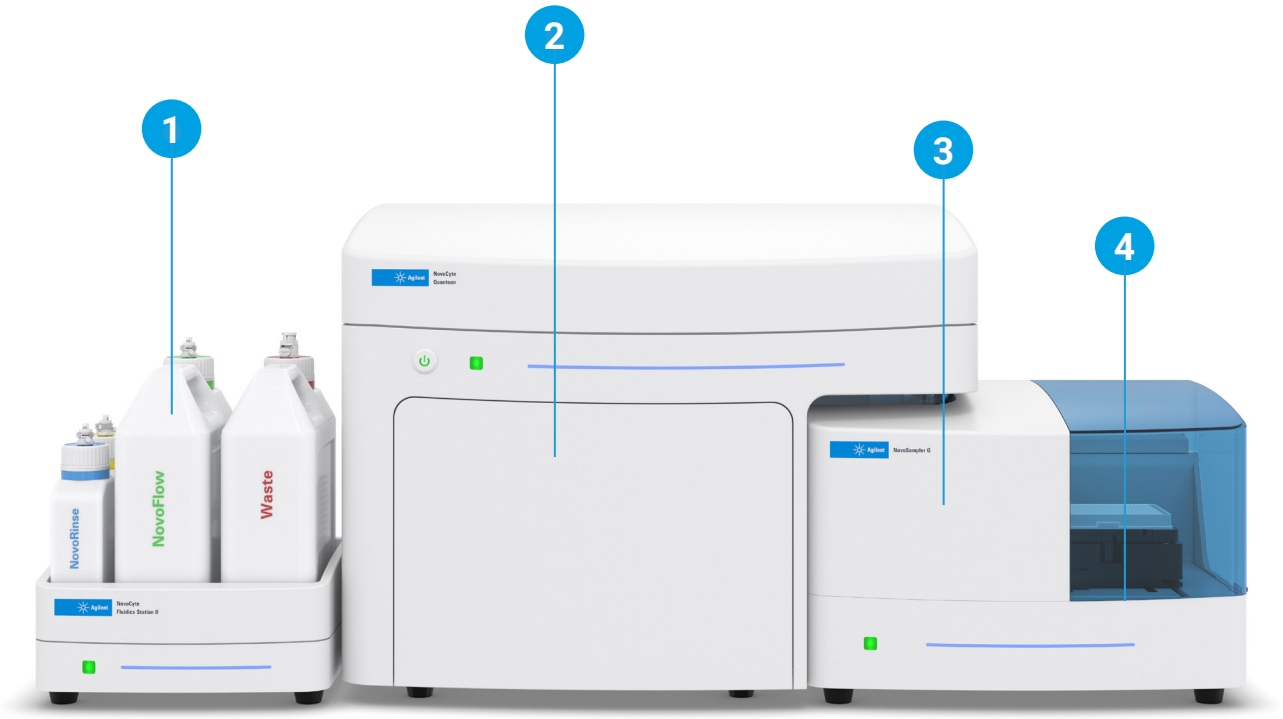
NovoCyte Instrument Configurations

Product	Lasers	349 nm	405 nm	488 nm	561 nm	637 nm	Maximum Number of Fluorescence Channels
NovoCyte Advanteon**	1			●			7
					●		6
	2		●	●			15
				●	●		13
				●		●	11
	3		●	●	●		21
				●	●	●	17
			●	●		●	19
NovoCyte Quanteon**	4		●	●	●	●	25
NovoCyte Penteon*	5	●	●	●	●	●	30

* RUO: Research use only. Not for use in diagnostic procedures.

** Selected configurations are registered as CE-IVD.

Walk-away Automation Simplifies Your Workflow



1) Continuously monitors fluid levels

A fluidic station will sense low sheath fluid or high-waste and eliminates the need for manual inspection. Fluidics consumption is estimated before a plate runs to ensure uninterrupted sample acquisition.

2) Easy startup and shut down

Quick startup with automated fluidic rinsing takes only minutes to prepare the instrument for your daily use.
The configurable pre-scheduled shutdown thoroughly cleans at a specified time each day to eliminate the hassle of end of day manual cleaning with an automatic shutdown cleaning procedure.

3) Embedded quality control

Quickly run daily QC, automatically generate comprehensive QC reports, and conveniently track performance over time with Levey-Jennings plots. The automatic QC test ensures proper performance monitoring not only day-to-day, but also over long-term use.

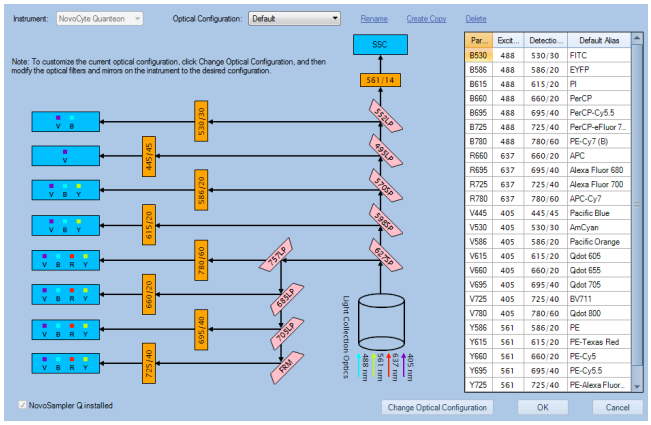
4) Hassle-free fluidics

Electronically monitored valves and sensors allow for automatic clog detection and recovery. A feedback control system continuously manages the sheath flow rate to maintain exceptional stability.

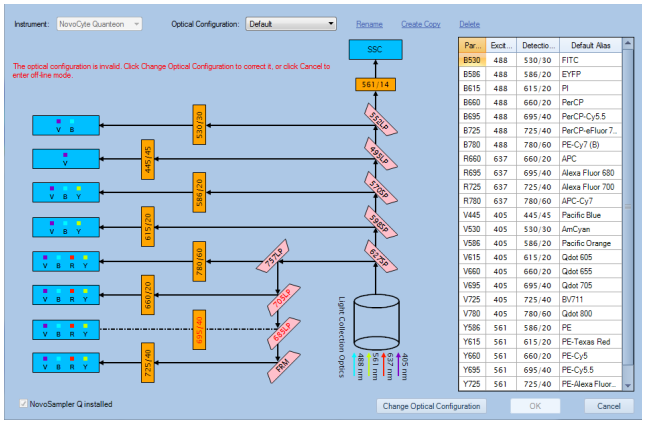
“Smart” optical filters

The instrument will automatically recognize the optical filters and ensure the correct configuration. Once a filter is inserted, the software will recognize the change, and report a misplacement. The filter recognition software tool ensures a properly arranged optical configuration.

Correct configuration



Incorrect configuration



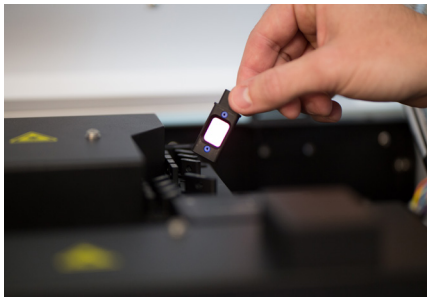
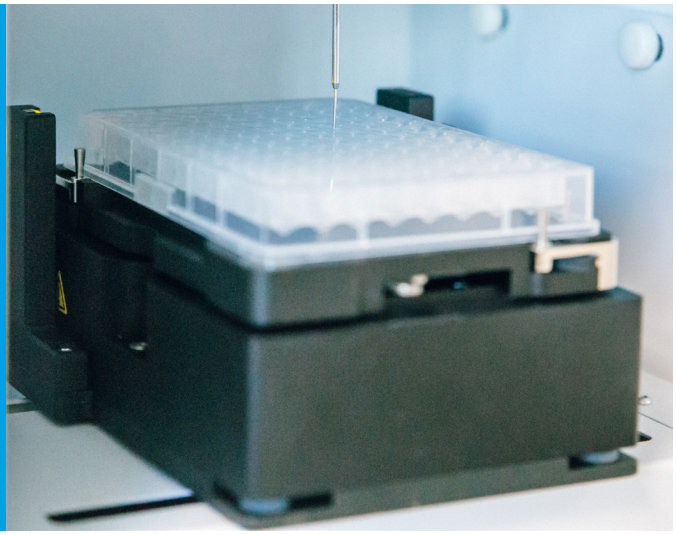


Figure 2. Optical configuration layout in the software shows interchangeable mirrors and filters with independent detectors for each fluorescence channel corresponding to different excitation lasers.

Versatile sample injection probe (SIP)

- Tapered design minimizes dead volume
- Sample aspiration by syringe pump ensures precise absolute counting
- Automated SIP rinsing follows sample acquisition and minimizes cross-sample carryover
- Easy cleaning and maintenance
- Automated SIP collision detection and recovery



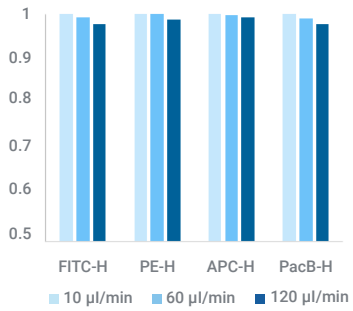
A Flow Cytometer with Exceptional Reliability

Consistent results, reliable performance

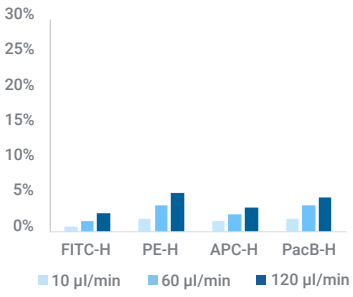
NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon are equipped with high-quality lasers, optical filters, and detectors to ensure consistent signal detection. The fluidic feedback control mechanisms maintain steady flow conditions providing stability across a wide range of flow rates. The NovoCyte Penteon, NovoCyte Quanteon, or NovoCyte Advanteon are the flow cytometer you can rely on to provide consistent results under variable operating parameters.

NovoCyte Penteon/ NovoCyte Quanteon/ NovoCyte Advanteon

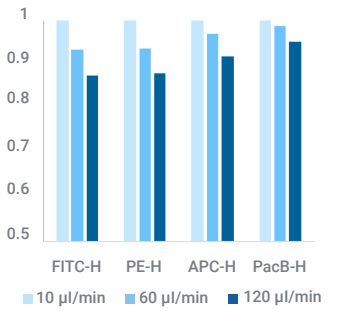
MFI ratio to low flow rate

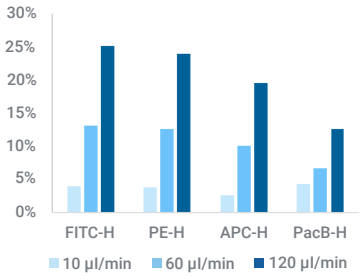


CV's measured with various flow rates



Competitor

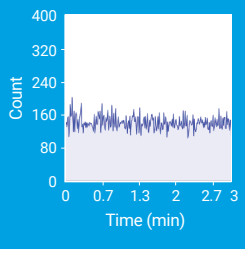




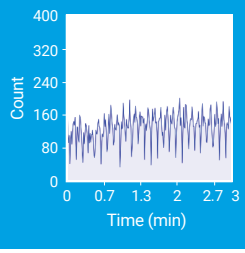
High-reproducibility and stability

The NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon fluidic systems are designed to deliver high-performance. When compared to other flow cytometers, the fluidic consistency and stability of the NovoCyte Penteon and NovoCyte Quanteon are unmatched. Other instruments utilizing peristaltic pumps are often subject to fluidic pulsation, causing inconsistency and inaccuracy in absolute cell counts.

NovoCyte Penteon/ NovoCyte Quanteon/ NovoCyte Advanteon



Competitor



Streamline Your Sample Acquisition and Data Analysis with the NovoExpress Software

Improved versatility and ease of operation

- One software interface for all: combining sample acquisition and data analysis
- Analyze acquired data in real-time during flow experiment to maximize productivity and efficiency
- Customizable statistical parameters with live updates when running samples
- Powerful compensation tools and convenient adjustments allow accurate pre-and post-acquisition compensation
- Batch analysis and reporting
- Easily create publication-quality figures with customizable plot scale, font, and legend
- Export as FCS (3.0, 3.1) or CSV files, import FCS files for analysis

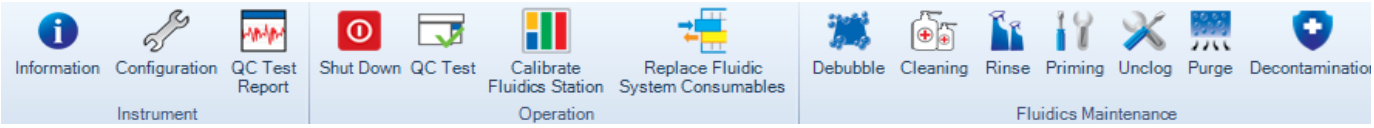


Figure 3. Instrument toolbar showing quick access to QC and fluidic maintenance functions.

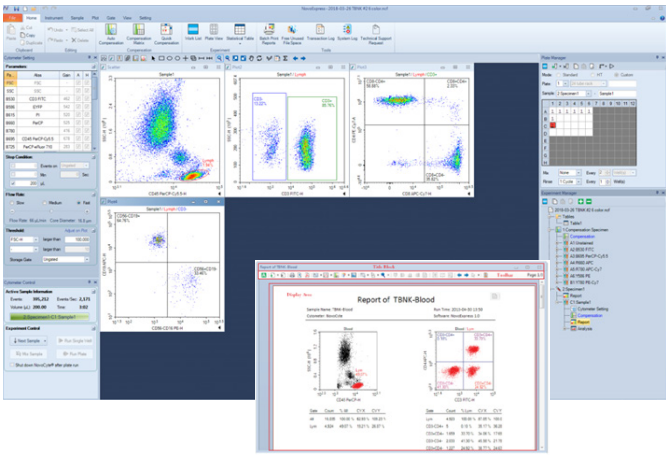
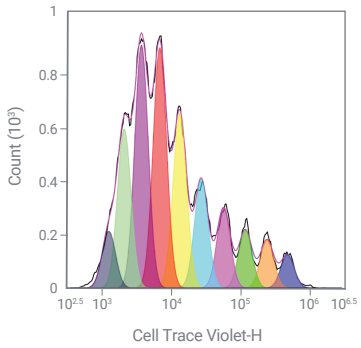


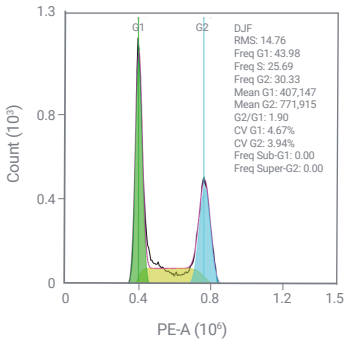
Figure 4. NovoExpress user-friendly interface for easy access to settings, analysis, reports, and plates/sample layout.

"This software is straightforward, and the software interface is easy to handle. The implemented auto compensation and a hierarchic tree structure is a highlight for effective organization of experimental data."

– **Matthias Schiemann,**
Technische Universität München

Advanced Data Analysis is Made Easy with NovoExpress





Cell proliferation modeling

Automatic analysis of cell proliferation to quickly identify generations of cell division and calculate the proliferation index for easy quantitation.

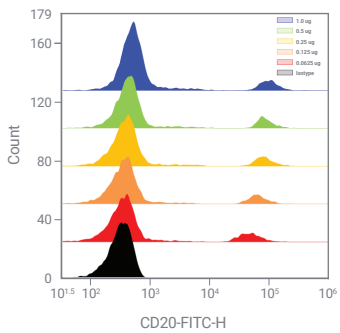
New cell cycle analysis module

Dean Jett Fox (DJF) and Watson Pragmatic algorithms are both incorporated in the NovoExpress cell cycle analysis module. This provides additional flexibility for your cell cycle analysis and quantitation of G1, S, and G2/M transitions, as well as other parameters such as CV's and G2/G1 ratio.

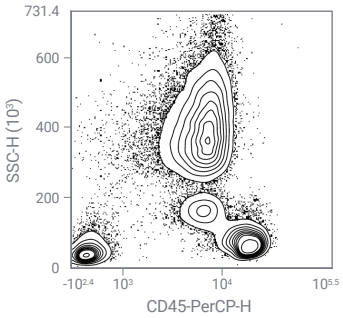
Heat-map

The color representation of user-defined parameters allow quick visualization and comparison of many samples simultaneously.

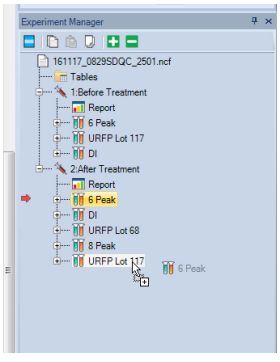
The industry-leading NovoExpress software allows intuitive data acquisition, data analysis, and report generation. It provides flexible analysis templates and plotting tools, offering enhanced data analysis efficiency. Multitask and analyze sample data while simultaneously acquiring your remaining samples to maximize your productivity.



Histogram overlay (half-offset)

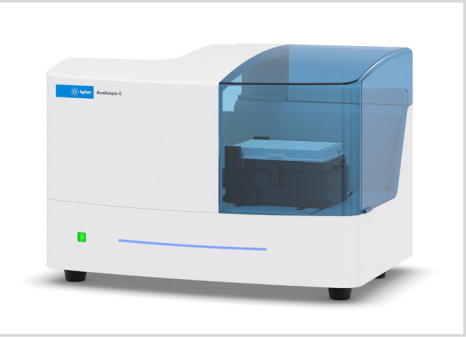


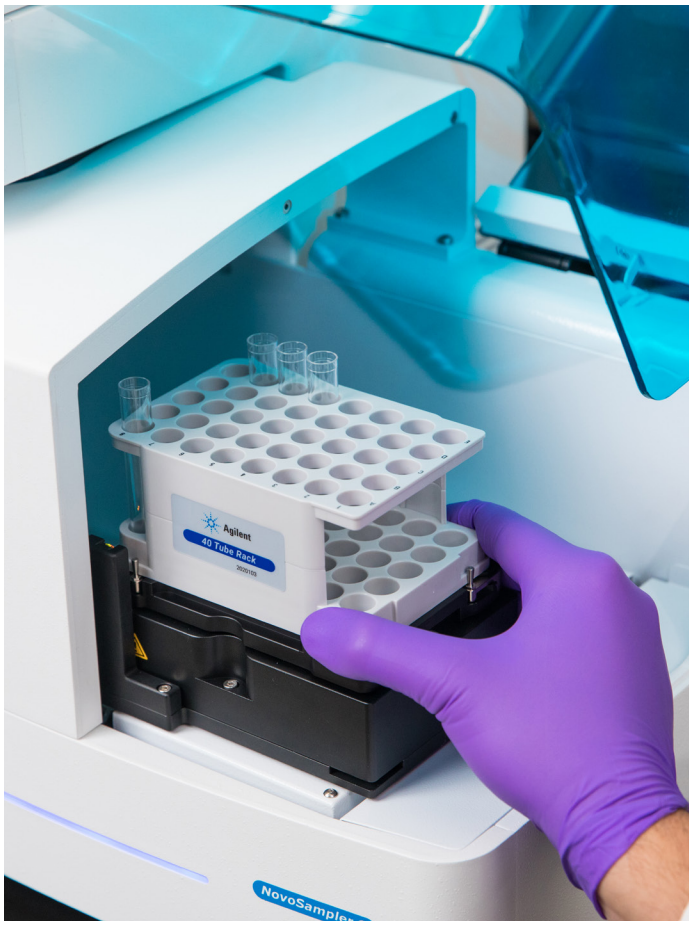
Contour plot with outliers



Drag-and-drop functionality to copy settings/analysis

Automate Sample Loading For Your Versatile Sampling Needs

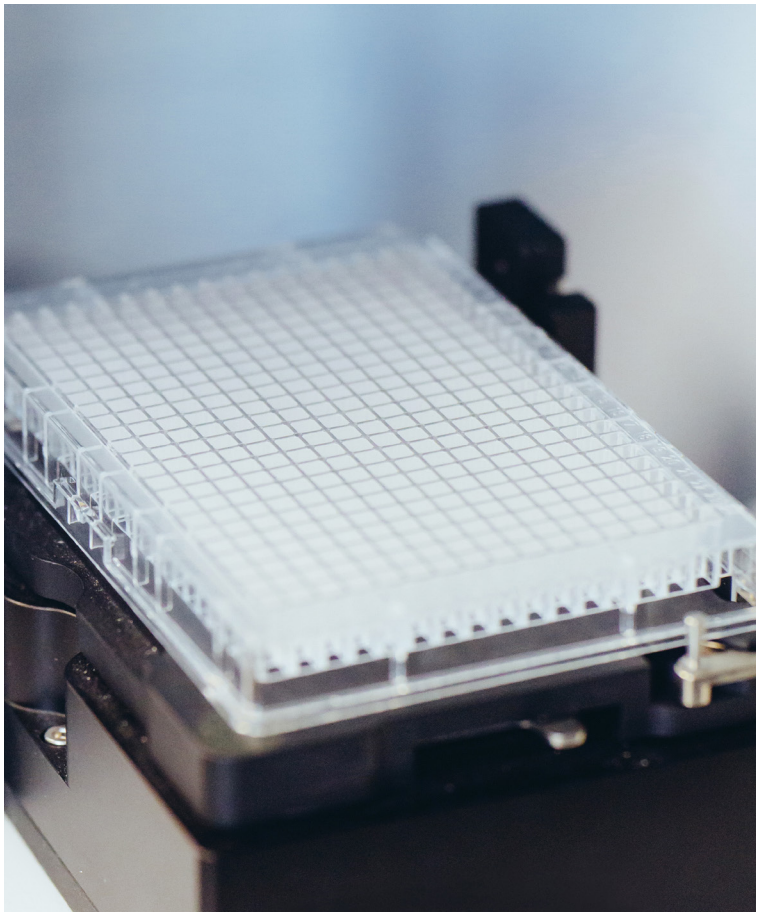




The NovoSampler Q

The NovoSampler Q is an automatic sample loading system for high-throughput and automated sample acquisition. Seamlessly integrated with the NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon flow cytometers, the NovoSampler Q is easy to operate, delivering high-speed analysis and processing performance.

- Automated plate calibration eliminates the needs for manual alignment and calibration
- Versatile loading mode and increased throughput using various sample formats (40-tube rack, 96/384 well plates) including customizable plates
- Rapid and high-throughput reading as fast as under 20 minutes for a 96-well plate and under 80 minutes for a 384-well plate
- Lab automation-friendly with an open architecture and developer-ready API
- Reliable orbital shaking keeps samples in suspension throughout the process



Minimize sample carryover

A wide range of flow cytometry applications requires sequential processing and quantitative analysis of sample groups. Minimizing sample carryover is important when acquiring multiple samples and during the analysis of rare events. Carryover from previous samples can substantially affect rare event detection. An automated fluidics system eliminates manual intervention and allows for less than 0.1% sample carryover.

Barcode for rapid sample ID and tracking

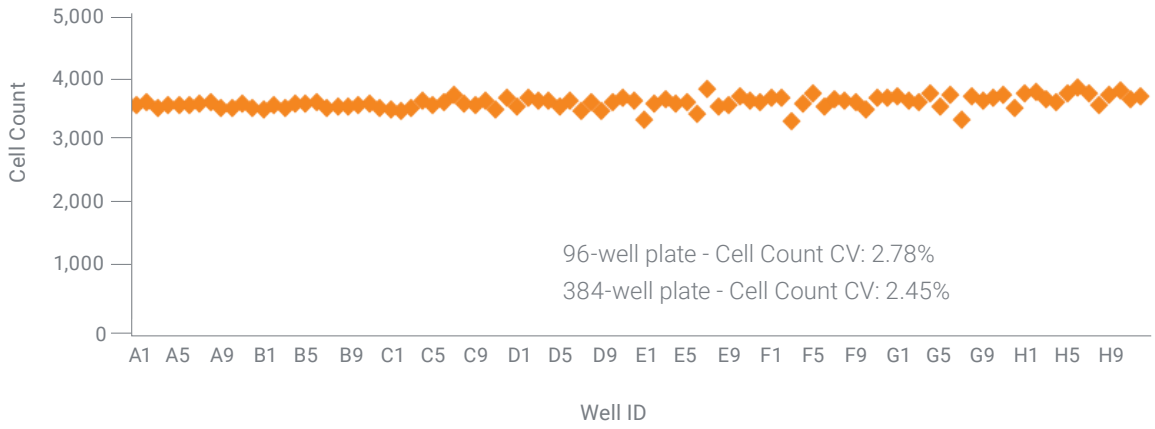
The barcode reader automatically and instantaneously identifies plate information in high-throughput experiments.

Flexible run time

Maximize your productivity with optional large sheath and large waste fluid containers that allow extended sample processing capabilities before replenishment. Up to 15 L of waste capacity ensures continuous instrument operation with large sample batches.

Uniform mixing ensures high-reproducibility

The NovoSampler Q ensures thorough sample mixing with default parameter settings and customized options. Easily adjust the mixing speed, duration, and acceleration to optimize mixing efficiency for your sample type. The orbital shaker maintains cells in suspension while running the plate and allows for consistent and reproducible results.



Absolute cell count in individual wells of a 96-well plate

Data Sheet

Agilent
Trusted Answers

Agilent Flow Cytometer Specifications

NovoCyte Penteon (5 Lasers)
NovoCyte Quanteon (4 Lasers)
NovoCyte Advanteon (1-3 Lasers)

A breakthrough in flow cytometry design, the Agilent NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon provide up to 30 fluorescence channels to meet the most demanding panels. The detectors have a 7.2 log dynamic range and advanced autocompensation features, alleviating the need to tune each detector. You now have the flexibility to choose from 30 fluorescence channels using one to five lasers, without having to sacrifice the performance in one channel for another.

NovoCyte Penteon
NovoCyte Quanteon
NovoCyte Advanteon
specifications

Lasers	349 nm	405 nm	488 nm	561 nm	637 nm
445/45 nm	✓	✓ ✓ ✓			
525/45 nm	✓	✓ ✓ ✓	✓ ✓ ✓		
586/20 nm	✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	
615/20 nm	✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	
667/30 nm	✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
695/40 nm		✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
725/40 nm	✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
780/60 nm	✓	✓ ✓ ✓	✓ ✓	✓ ✓ ✓	✓ ✓ ✓
NovoCyte Penteon (5 Lasers)					
NovoCyte Quanteon (4 Lasers)					
NovoCyte Advanteon (1–3 Lasers)		Pick up to three			

	Specification	Description
Optics	Laser	Solid state laser with onboard thermal-electric cooling and guaranteed thermal stability and beam quality
	Laser beam profile	10 × 60 µm elliptical beam
	Laser operation	Laser on only when acquiring samples
	Optical alignment procedure	Fixed; no operator alignment required
	Laser power	NovoCyte Advanteon: 405 nm 50 mW, 488 nm 60 mW, 561 nm 50 mW, 640 nm, 40 mW NovoCyte Quanteon: 405 nm 100 mW, 488 nm 100 mW, 561 nm 100 mW, 637 nm 100 mW NovoCyte Penteon: 349 nm 20 mW, 405 nm 100 mW, 488 nm 100 mW, 561 nm 100 mW, 637 nm 100 mW
	Fluorescence detection	Silicon photomultiplier (SiPM) with high photon detection efficiency, individual photodector for each channel
	FSC/SSC sensitivity	FSC: 0.4 µm, SSC: 0.1 µm
	Fluorescence threshold sensitivity	NovoCyte Quanteon/Penteon: FITC ≤40 MESF, PE≤10 MESF, APC ≤10 MESF,Pacific Blue ≤30 MESF NovoCyte Advanteon: FITC ≤45 MESF, PE ≤15 MESF, APC ≤15 MESF, Pacific Blue ≤35 MESF
	Fluorescence resolution	<3% CV for CEN
	Optical filters	User exchangeable, smart filter automatically read by the system
Fluidics	Flow cell	170 × 290 µm rectangular quartz flow cell
	Sample acquisition rate	100,000 events/second
	Sample delivery	Positive-displacement syringe pump, enabling direct volumetric absolute count without the need for reference counting beads
	Volumetric absolute count precision	<5%
	Sample flow rate	5 to 120 µL/min, continuously adjustable
	Sheath flow rate	6.5 mL/min
	Sample acquistion volume	5 µL to 5 mL
	Manual sample format	12 × 75 mm tube, 1.5 mL Eppendorf tube
	Connection to autosampler	No fluidic tubing disassembly or reconnection required
	Fluid level sensing	Active sensing using weight sensors with automated warnings when any fluid level is out of specified range
	Fluid container capacity	3 L sheath, 3 L waste, 500 mL cleaning, 500 mL rinse, optional large container for sheath (15 L), and waste (15 L)
	Carryover	<0.1%
	Sample injection probe (SIP) rinse	Automated flying collar wash of inner and outer SIP surface after each sampling
	Fluidics system monitoring	Inline pressure sensor monitors the pressure in real time. Automated system recovery when pressure is out of range due to clogging.
	Fluidics system maintenance	Automated startup and shutdown with fluidic system cleaning. Automated user executable cleaning, debubble, rinse, extensive rinse, unclog, priming, and decontamination.
Data management	Software	Agilent NovoExpress
	Parameters	Height and area for FSC, SSC and all fluorescence channels, width off FSC, time
	Dynamic range	24 bit, 7.2 decades logarithmic scale
	Fluorescence photodetector gain control	User adjustable, optimized, default gain setting for each individual channel
	Compensation	Full inter-beam matrix, during or after acquisition
	Output data files	FCS 3.0, FCS 3.1, CSV, batch PDF reports
	Data report	Automatic report, customizable report, batch PDF report
	Workstation	Intel core i7 processor, 8 GB RAM, 1 TB hard drive, small form factor, optional higher configuration workstation
	Monitor	23.8 in flat panel (1,920 × 1,200 resolution)
	Computer operating system	Microsoft Windows 10 Professional (64 bit) or new version with Microsoft Office preinstalled
	Usage monitor	Comprehensive transaction log and system log
	User management	Administrative creation of individual user accounts and user groups with privilege control. Configurable roles for individual users. User operation time tracking.
Physical parameters	Dimensions (W × D × H)	NovoCyte Penteon: 33.5 × 18.1 × 18.8 in (85 × 46 × 48 cm) with Agilent NovoSampler Q NovoCyte Quanteon: 33.5 × 18.1 × 18.8 in (85 × 46 × 48 cm) with Agilent NovoSampler Q NovoCyte Advanteon: 33.5 × 18.1 × 18.8 in (85 × 46 × 48 cm) with NovoSampler Q
	Weight	NovoCyte Penteon 138 lbs (62.5 kg) With NovoSampler Q NovoCyte Quanteon 138 lbs (62.5 kg) With NovoSampler Q NovoCyte Advanteon 123 lbs (56 kg) with NovoSampler Q
	Operating temperature	+15 to +30 °C
	Operating humidity	Relative humidity: 80% maximum
	Power requirements	100/115/230 VAC, 50 to 60 Hz

NovoSampler Q specifications

Specification		Description
Physical Parameters	Dimension (W × D × H)	16.9 × 11.0 × 11.8 in (43 × 28 × 30 cm)
	Weight	29.3 lb (13.3 kg)
Installation	Installation method and calibration	Automated self-calibration after installation. No need to reconfigure fluidics tubing or connection.
Performance and Capability	Labware compatibility	40-tube rack for 12 × 75 mm tube, 24-well, 48-well, 96-well (flat, U-, V-bottom), and 384-well microplates.
	Labware calibration	Automated bottom height mapping and calibration to accommodate different labware. Calibrated labware template can be saved for future use.
	SIP collision detection	Automated fluidics system recovery after detection of SIP collision; automatic acquisition of the next sample after successful recovery.
	Carryover	<0.1%
	Mix mode	Orbital shaking up to 3,000 rpm. User-definable mixing frequency, speed, acceleration, and duration.
	Bar code reading	Integrated barcode reader. Automatically prompt barcode as specimen name in the software.
	Fluidics system rinse	Automated postsampling rinse for every sample. User-definable extra rinse cycle and rinse frequency.

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Data Sheet

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Agilent NovoCyte Flow Cytometer

Technical specifications

Introduction

The Agilent NovoCyte is for everyone

Research tools can be affordable and easy to use without sacrificing high performance over cost. Scientists can now address the full range of their current and future needs for multiparameter flow cytometry analysis with the Agilent NovoCyte flow cytometer.

- **Powerful** – Up to 17-parameter detection with enhanced sensitivity and resolution
- **Intuitive** – Automated instrument maintenance functions and advanced data analysis capability for easy user interface
- **Customizable** – Three different laser options, exchangeable filters, multiple sampling options, and flexible analysis formats

Configurable laser systems

Table 1. Standard systems.

Model Number		1000	2000R		2060R		3000			3005		
Lasers		488 nm	488 nm	640 nm	488 nm	640 nm	405 nm	488 nm	640 nm	405 nm	488 nm	640 nm
Detectors	445/45 nm						•			•		
	530/30 nm	•	•		•		•	•		•	•	
	572/28 nm	•	•		•		•	•		•	•	
	615/20 nm						•	•				
	660/20 nm									•	•	•
	675/30 nm	•	•	•	•	•	•	•	•			
	725/40 nm									•	•	•
	780/60 nm				•	•	•	•	•	•	•	•

Table 2. Yellow laser systems.

Model Number		2100YB		3000VYB			3000RYB		
Lasers		488 nm	561 nm	405 nm	561 nm	488 nm	640 nm	561 nm	488 nm
Detectors	445/45 nm			•					
	530/30 nm	•		•		•			•
	586/20 nm	•	•	•	•	•		•	•
	615/20 nm	•	•	•	•	•		•	•
	660/20 nm	•	•	•	•	•	•	•	•
	695/40 nm	•	•				•	•	•
	780/60 nm		•	•	•		•	•	

NovoCyte specifications

Table 3. Agilent NovoCyte specifications.

Optics	Laser configuration	Spatially separated beams with 10 × 80 µm elliptical spots
	Optical alignment procedure	Fixed, no operator alignment required
	Flow cell	170 × 290 µm rectangular quartz flow cell
	Scatter resolution	0.2 µm
	Cell size	0.2 to 50 µm
	Fluorescence threshold sensitivity	FITC <75 MESF, PE <50 MESF, APC <20 MESF
	Fluorescence resolution	<3% CV for CEN
	Filters	User exchangeable
Fluidics	Sample acquisition rate	35,000 events/second
	Volumetric absolute count precision	Syringe pump: CV <5%
	Sample flow rate	5 to 120 µL/min
	Sheath flow rate	6.5 mL/min
	Sample aspiration volume	10 µL to 5 mL
	Fluid container capacity	3 L sheath, 3 L waste, 500 mL cleaning, 500 mL decontamination
	Carryover	<0.1%
	Fluidics maintenance	Automated startup, cleaning, decontamination, and shutdown
Data processing	Parameters	Height and area for FSC, SSC and all fluorescence channels, width, and time
	Dynamic range	24 bit, 7.2 decades logarithmic scale, no need for PMT voltage adjustment
	Compensation	Automatic compensation, manual compensation, visual compensation tools available for pre/post/live acquisitions
	Output data files	FCS 3.1, NovoExpress (.ncf), PDF reports, bitmap graphics, vector graphics, CSV
	Workstation	Dell OptiPlex 7040 SFF, 1 TB with 23.8 in LCD monitor
	Computer operating system	Microsoft Windows 7 Professional (64 bit), Microsoft Office 2016
	Software	Agilent NovoExpress
Sampling	Manual sample loading	12 × 75 mm tube, 1.5 mL Eppendorf tube
	Automatic sample loading	Optional – compatible with 12 × 75 mm tube, 1.5 and 2 mL tubes, "bullet" tubes in 96-position racks, 24-well, 48-well, and 96-well microtiter plates
Operating conditions	Instrument dimension (W × D × H)	23.6 × 17.7 × 15.4 in (60 × 45 × 39 cm)
	Instrument weight	86 lb (39 kg)
	Power requirements	100/115/230 VAC, 50 to 60 Hz
	Environment requirements	Temperature: +15 to +32 °C, relative humidity: 80% maximum

Note: Some specifications and performance claims were validated using certain conditions.

Compatible fluorochromes

Table 4. Agilent NovoCyte 3005 channels.

	405 nm						488 nm					640 nm		
FL Channel	Pacific Blue Brilliant Violet 421	AmCyan Brilliant Violet 510	Pacific Orange Brilliant Violet 570	Qdot 650 Brilliant Violet 655	Qdot 705 Brilliant Violet 711	Qdot 800 Brilliant Violet 785	FITC	PE	Cy5	PerCP eFluor70	PE-Cy7	APC	Alexa Fluor 700	APC-Cy7
445/45 nm	•													
530/30 nm		•					•							
572/28 nm			•					•						
660/20 nm				•					•			•		
725/40 nm					•					•			•	
780/60 nm						•					•			•

Table 5. Agilent NovoCyte 3000 channels.

	405 nm						488 nm					640 nm	
FL Channel	Pacific Blue Brilliant Violet 421	AmCyan Brilliant Violet 510	Pacific Orange Brilliant Violet 570	Qdot 605 Brilliant Violet 605	Qdot 650 Brilliant Violet 655	Qdot 800 Brilliant Violet 785	FITC	PE	Cy5	PerCP eFluor70	PE-Cy7	APC	APC-Cy7
445/45 nm	•												
530/30 nm		•					•						
572/28 nm			•					•					
615/20 nm				•					•				
675/30 nm					•					•		•	
780/60 nm						•					•		•

Table 6. Agilent NovoCyte 3000 RYB channels.

	640 nm			561 nm					488 nm				
FL Channel	APC Alexa Fluor 647	Alexa Fluor 700	APC-Cy7	PE	PE-Texas Red mCherry	PE-Cy5 mPlum	PE-Cy5	PE-Cy7	FITC eGFP	EYFP	Propidium Iodide	PerCP 7-AAD	PerCP-Cy5.5
530/30 nm									•				
586/20 nm				•						•			
615/20 nm					•						•		
660/20 nm	•					•						•	
695/40 nm		•					•						•
780/60 nm			•					•					

Table 7. Agilent NovoCyte 3000 VYB channels.

	405 nm						561 nm				488 nm			
FL Channel	Pacific Blue Brilliant Violet 421	AmCyan Brilliant Violet 510	Pacific Orange Brilliant Violet 570	Qdot 605 Brilliant Violet 605	Qdot 655 Brilliant Violet 650	Qdot 800 Brilliant Violet 785	PE tdTomato	PE-Texas Red mCherry	PE-Cy5 mPlum	PE-Cy7	FITC eGFP	EYFP	Propidium Iodide	PerCP 7-AAD
445/45 nm	•													
530/30 nm		•									•			
586/20 nm			•				•					•		
615/20 nm				•				•					•	
660/20 nm					•				•					•
780/60 nm						•				•				

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Instrument Consumables & Accessories

Decontamination Kits for Flow Cytometry

Keeping your flow cytometer clean is important to obtain high quality data. The decontamination procedure can be used two ways. Use after a known bacterial contamination has occurred or as a preventative maintenance procedure to minimize or prevent the occurrence of bacterial contamination in the NovoCyte Quanteon fluidics system.

Part Number	Description	Unit
2030015	Decontamination kit, NovoCyte V1	1 Kit
2030016	Decontamination kit, NovoCyte V2	1 Kit
2030024	Decontamination kit, NovoCyte Quanteon/Advanteon	1 Kit

Features

- When any type of contamination is suspected, the decontamination kit has everything you need to thoroughly clean the flow cytometer
- The on-screen step by step procedure will walk you through the decontamination process

Instrument Consumables & Accessories

Fluidics System Maintenance Kits for Flow Cytometry

Choose from convenient options of 2 month, 6 month, or 12 month maintenance kits. The flexible kit choices ensure you have enough supplies to complete the regular maintenance required by your flow cytometer. Agilent flow cytometers automatically monitor the accumulated running time of the fluidic system consumables to ensure the consumables are changed in a timely manner for optimal flow cytometry results

Part Number	Description
2030035	1-Year fluidics maintenance kit, V1
2030036	6-Month fluidics maintenance kit, V1
2030037	2-Months fluidics maintenance kit, V1
2030038	1-Year fluidics maintenance kit, V2
2030039	6-Month fluidics maintenance kit, V2
2030040	2-Month fluidics maintenance kit, V2
2030041	1-Year fluidics maintenance kit
2030042	6-month fluidic maintenance kit
2030043	2-month fluidic maintenance kit

Features

- Convenient maintenance kits packaged for you
- Ensure you have everything you need to perform routine maintenance
- 2 month, 6 month, or 12 month maintenance kits available

Instrument Consumables & Accessories

Fluidics System Solutions for Flow Cytometry RUO

Onboard and connected to the flow cytometer, the fluidics are used during sample acquisition and for automatic instrument rinsing and cleaning procedures. Agilent sheath, rinse, and cleaning solutions are all you need to run your cytometer. NovoFlow, NovoRinse, and NovoClean solutions are also available in concentrated forms for longer storage requirements.

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Part Number	Description	Volume	Unit
8100019AA	8100019AA		1 Kit
872B602	NovoClean solution, 1X, 500 mL	500 mL	1 Bottle
871B609	NovoClean solution, 5X, 100 mL	100 mL	1 Bottle
872B609	NovoClean solution, 5X, 500 mL	500 mL	1 Bottle
875B601	NovoFlow sheath fluid, 1X, 10 L	10 L	1 Bottle
871B607	NovoFlow solution, 100X, 200 mL	20 mL	10 Bottle
872B607	NovoFlow solution, 100X, 500 mL	125 mL	4 Bottle
872B603	NovoRinse solution, 1X, 500 mL	500 mL	1 Bottle
871B610	NovoRinse solution, 5X, 100 mL	100 mL	1 Bottle
872B610	NovoRinse solution, 5X, 500 mL	500 mL	1 Bottle
2030028	Starter kit, Large Fluidic Cart		1 Kit
8100019	Starter kit, NovoCyte Quanteon/Advanteon		1 Kit
872B602	NovoClean solution, 1X, 500 mL	500 mL	1 Bottle

Features

- Formulated fluidic solutions for your flow cytometer to ensure that your instrument is operating at peak performance
- NovoFlow sheath fluid to run your flow cytometer
- NovoClean solution for instrument cleaning
- NovoRinse solution of instrument rinsing

Fluidics System Supplies for Flow Cytometry

Fluidic supplies provide all you may need to run your experiments and keep your flow cytometer in good working condition.

Part Number	Description	Unit
2040096	Inlet filter, 15 L NovoFlow container	1 Each
2020002	Spigot, NovoFlow sheath fluid refill	1 Each
2020120	Tubing harness, 15 L waste container	1 Each
2020119	Tubing harness, 15 L NovoFlow container	1 Each
2020008	Quick coupler & tubing kit for fluid containers	1 Set
2020007	Container, NovoClean solution, 500 mL	1 Each
2020006	Container, NovoRinse solution, 500 mL	1 Each
2020005	Container, waste, 3 L	1 Each
2020004	Container, NovoFlow sheath fluid, 3 L	1 Each
2030002	In-line filter, NovoFlow sheath fluid	1 Each
2030001	Inlet filter, NovoFlow sheath fluid	1 Each
2030051	Inlet filter, NovoClean solution, 25/pk	25 Each
2030050	Inlet filter, NovoRinse solution, 25/pk	25 Each
2030030	In-line filter, 0.05 µm, NovoFlow sheath fluid, 15/pk	15 Each
2060087	Quick coupling connecter kit	
2030019	In-line filter, NovoFlow sheath fluid, 12/pk	12 Each
2030029	In-line filter, 0.05 µm, NovoFlow sheath fluid, 5/pk	5 Each
2030004	Tubing, sheath pump, V1 systems	1 Each
2030048	Inlet filter, NovoRinse solution	1 Each
2030003	Waste filter	1 Each
2030049	Inlet filter, NovoClean solution	1 Each

Features

- Fluidic supplies available if needed for replacement
- Manufacturer guaranteed fluidic supplies ensure stable and consistent flow rates on your Agilent flow cytometer
- Cleans and maintains your flow cytometer for optimal performance

Instrument Consumables & Accessories

Optical Filter Assemblies for Flow Cytometry

Optical filters allow the flow cytometers to separate the emitted light according to wavelength so you can separate and analyze multiple detection channels simultaneously. Longpass (LP), shortpass (SP), and bandpass (BP) filters all work together to achieve up to 25 different fluorescence detection channels.

Part Number	Description	Center Wavelength	Unit
2060269	Bandpass filter assembly 667/30 nm	667 nm	1 Each
2060268	Bandpass filter assembly 572/28 nm	572 nm	1 Each
2060267	Dichroic mirror assembly 550 nm (SP)	550 nm	1 Each
2060187	Full reflection mirror (FRM)		1 Each
2060180	Full reflection mirror (FRM)		1 Each
2060090	Dichroic mirror assembly 685 nm (LP)	685 nm	1 Each
2060139	Bandpass filter assembly 550/49 nm	550 nm	1 Each
2060138	Bandpass filter assembly 590/36 nm	590 nm	1 Each
2060137	Bandpass filter assembly 630/30 nm	630 nm	1 Each
2060179	Dichroic mirror assembly 757 nm (LP)	757 nm	1 Each
2060178	Dichroic mirror assembly 705 nm (LP)	705 nm	1 Each
2050011	Bandpass filter assembly 615/20 nm	615 nm	1 Each
2060177	Dichroic mirror assembly 685 nm (LP)	685 nm	1 Each
2060176	Dichroic mirror assembly 627 nm (SP)	627 nm	1 Each
2050013	Dichroic mirror assembly 600 nm (LP)	600 nm	1 Each
2060175	Dichroic mirror assembly 598 nm (SP)	598 nm	1 Each
2060174	Dichroic mirror assembly 570 nm (SP)	570 nm	1 Each
2050012	Dichroic mirror assembly 472 nm (SP)	472 nm	1 Each
2050015	Bandpass filter assembly 445/45 nm	445 nm	1 Each
2060173	Dichroic mirror assembly 552 nm (LP)	552 nm	1 Each
2060172	Dichroic mirror assembly 495 nm (LP)	495 nm	1 Each
2050014	Dichroic mirror assembly 735 nm (LP)	735 nm	1 Each
2060171	Bandpass filter assembly 780/60 nm	780 nm	1 Each
2060170	Bandpass filter assembly 725/40 nm	725 nm	1 Each
2060092	Bandpass filter assembly 675/30 nm	675 nm	1 Each

2060091	Bandpass filter assembly 660/20 nm	660 nm	1 Each
2050018	Bandpass filter assembly 780/60 nm	780 nm	1 Each
2060119	Bandpass filter assembly 572/28 nm	572 nm	1 Each
2060118	Bandpass filter assembly 561/14 nm	561 nm	1 Each
2060128	Dichroic mirror assembly 495 nm (LP)	495 nm	1 Each
2060127	Dichroic mirror assembly 505 nm (LP)	505 nm	1 Each
2060126	Dichroic mirror assembly 555 nm (LP)	555 nm	1 Each
2060125	Dichroic mirror assembly 572 nm (LP)	572 nm	1 Each
2060169	Bandpass filter assembly 695/40 nm	695 nm	1 Each
2060168	Bandpass filter assembly 660/20 nm	660 nm	1 Each
2060124	Dichroic mirror assembly 650 nm (LP)	650 nm	1 Each
2060167	Bandpass filter assembly 615/20 nm	615 nm	1 Each
2060123	Dichroic mirror assembly 705 nm (LP)	705 nm	1 Each
2060089	Bandpass filter assembly 695/40 nm	695 nm	1 Each
2060166	Bandpass filter assembly 586/20 nm	586 nm	1 Each
2060122	Dichroic mirror assembly 757 nm (LP)	757 nm	1 Each
2060165	Bandpass filter assembly 561/14 nm	561 nm	1 Each
2060121	Bandpass filter assembly 488/10 nm	488 nm	1 Each
2060164	Bandpass filter assembly 530/30 nm	530 nm	1 Each
2060120	Bandpass filter assembly 530/30 nm	530 nm	1 Each
2060163	Bandpass filter assembly 445/45 nm	445 nm	1 Each
2060117	Bandpass filter assembly 586/20 nm	586 nm	1 Each
2060116	Bandpass filter assembly 725/40 nm	725 nm	1 Each
2060157	Full reflection mirror (FRM)		1 Each

Features

- High quality optical filters for your Agilent Flow Cytometer
- Easily change optical filters to customize your detection channels
- Longpass, shortpass, or bandpass filter selection

Instrument Consumables & Accessories

Quality Control & Calibration Particles for Flow Cytometry

The Quality Control (QC) procedure monitors the performance of your flow cytometer and prevents any tests being conducted under nonoptimal instrument conditions. Agilent's QC particles allow you to quickly and easily run regular QC tests on your flow cytometer. By regularly running the QC test, you can track your flow cytometer performance. It is recommended to run the QC test daily to ensure instrument consistency.

Part Number	Description	Unit
8000004	NovoCyte 6 peak QC particles, 2 mL vial	1 Vial

Features

- Fully integrated QC test in the NovoExpress software allows easy and routine QC monitoring
- Monitor system performance over time using the Levey-Jennings reports

Instrument Consumables & Accessories

Tube Holders & Racks for Flow Cytometry

A variety of tube holders and tube racks accomodate your workflow, whether it be standard FACS tubes or 1.5/2.0 mL tubes. For convenience, we can provide tube holders for single-tube use or tube racks when used with an autosampler, for walk-away functionality.

Part Number	Description	Compatible With	Unit
2020010	Tube holder, version A, 12 x 75 mm		1 Each
2020011	Tube holder, version A, 1.5 mL Eppendorf		1 Each
2020068	Tube holder, version B, 12 x 75 mm		1 Each
2020069	Tube holder, version B, 1.5 mL Eppendorf		1 Each
2020079	Rack, 24-tube		1 Each
2020100	Tube holder, 12 x 75 mm		1 Each
2020101	Tube holder, 1.5 mL Eppendorf		1 Each
2020103	Rack, 40-tube		1 Each

Features

- Easily change been FACS tube and 1.5/2.0 mL holders
- For NovoSampler Q, 40 tube rack to increase your efficiency
- For NovoSampler Pro, 24 tube rack available for your convenience

Flow Cytometry Automation

NovoSampler Pro RUO

The NovoSampler Pro is compatible with 24-, 48-, and 96-well plate configurations. The sampler can accommodate 24 tube racks as well. Load your plate and let the system record the data for you.

Walk away convenience delivers on time savings and cost savings in the laboratory. Flexible sampling of microplates allows for small projects or high-throughput, 24/7 workflows. Low carryover, and orbital shaking allow you to maximize your efficiency and make the instrument work for you.

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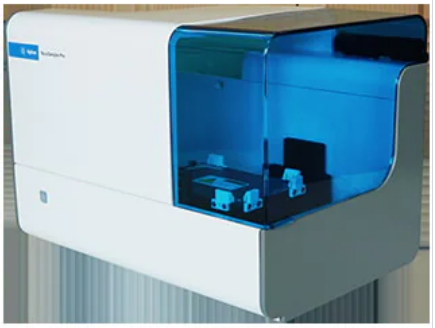


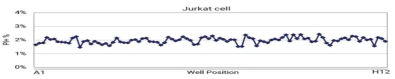
Features

- Trusted results with low carryover – <0.1% (volume)
- Convenient automated sample mixing – Orbital shaking up to 3000 rpm
- Versatile workflows are compatible with 24-, 48-, 96-well plate, and 24 tube racks
- Walk away sample acquistion
- Save time by making the instrument work for you

How It Works

Ensure homogeneity of mixed samples

NovoSampler Pro ensures homogeneity of mixed sample and maintains integrity of biological samples. Cell viability of Jurkat cells stained with Propidium Iodide (PI) are maintained across the entire plate (96-well) during mixing and sampling (Figure 3). Jurkat cells were suspended with PBS containing 0.2% BSA, stained with PI (2 µg/mL), and loaded onto a 96-well plate at 100uL per well. Sample loading settings: default settings, stop condition of 30µL, sample flow rate 66µL/min.



Flow Cytometry Automation

NovoSampler Q RUO

The NovoSampler Q is compatible with 24-, 48-, 96-, 384- well plate configurations. It can accommodate 24 and 40 tube racks as well. Automation tools for sample handling and integrated software deliver on a workflow with minimal manual intervention.

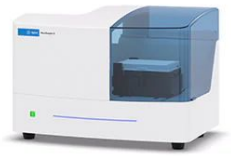
Walk away convenience delivers on time savings and cost savings in the laboratory. Flexible sampling of microplates allows for small projects or high-throughput, 24/7 workflows. Low carryover, orbital shaking, and embedded barcode reader ensure that your samples are processed quickly and accurately with results you can trust.

For Research Use Only. Not for use in diagnostic procedures.

Features

- Trusted results with low carryover – <0.1% (volume)
- Convenient automated sample mixing – Orbital shaking up to 3000 rpm
- Rapid results, 96 well plate <20 min
- Versatile workflows are compatible with 24/48/96/384-well plate, 24 and 40 tube racks
- Save administrative time in sample tracking with the embedded barcode reader

How It Works



Flexibility & Performance

The NovoSampler Q is an automatic sample loading system that fulfills the requirement of high-througput and automated sample acquisition. The NovoSample Q saeamlessly integrates with NovoCyte Advanteon, is exceptionally easy to operate, and delivers high-speed processing and analysis performace.

- Automated plate calibration eliminates the need for manual alignment and calibration.
- Versatile loading modes with a variety sample formats (40 tube rack, 24/48/96/384 well plates), as well as customizable plates.
- Rapid and high-throughput reading, in 20 minutes or faster for a 96-well plate and <80 minutes for a 384 well plate.
- Reliable orbital shaking keeps samples in suspension at all times, which is important in dosing experimantes where cell settling would skew results.
- Fully integrated barcode reader provides rapid sample identification and tracking.

Flow Cytometry Automation

Robotic Automation RUO

The robotic arm compatible with flow cytometry systems features a precise grip and handle with high quality grippers and fingers for consistent and reliable sample handling. Automation offers simplicity and walk-away operation. Time consuming sample handling and error prone practices are eliminated with robotic automation.

For Research Use Only. Not for use in diagnostic procedures.

Features

- Automation enables 24/7 instrument operation for resource optimization and shorter time-to-results
- Lab automation friendly with open architecture and developer-ready API
- Compatible with robotic handling platforms to easily incorporate flow cytometry into your automated laboratory
- Ideal for large screening applications with long run times
- Optional large fluidic cart to minimize downtime for refilling sheath fluid and emptying waste

По вопросам продаж и поддержки обращайтесь:

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