Data Sheet

Agilent
Trusted Answers

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 10 Professional (64 bit) or newer version
	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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