Performance You Can Trust with the Flexibility You Need

Agilent NovoCyte Advanteon flow cytometer
Advancing the Boundaries of Flow Cytometry

The Agilent NovoCyte Advanteon flow cytometer builds upon the highly successful Agilent NovoCyte and NovoCyte Quanteon to provide an advanced set of capabilities for the most demanding scientists, yet is remarkably simple to operate. The NovoCyte Advanteon can accommodate today’s high-end and increasingly sophisticated multicolor flow cytometry assays, and provides the flexibility of 1, 2, or 3 laser options, with up to 21 fluorescence channels and 23 independent detectors. The NovoCyte Advanteon is customizable to meet your specific needs, and is easily upgradeable to meet your future demands. When throughput is essential, add Agilent NovoSampler Q to your laboratory automation platforms. It can efficiently process both FACS tubes (using a 40-tube rack) and 24-, 48-, 96-, and 384-well plates. For the NovoCyte Advanteon, the intuitive and industry-honored Agilent NovoExpress software is now even more advanced, providing an exceptional user experience in data acquisition, analysis, and reporting.

- Expanded customization and upgrade potential with up to 21-color options using up to 3 lasers
- Sample recovery mode serves to collect unused sample at end of acquisition
- Superior sensitivity and resolution
- Intuitive and powerful software for data acquisition, analysis, and reporting
- Smart-design functionalities and walk-away operation simplifies your workflow
- Automation-ready for high-throughput needs
- Wide, 7.2-log dynamic range eliminates the need for routine detector adjustments
- High-speed collection of up to 100,000 events/second
- Accurate absolute cell count in every experiment, which eliminates the need for reference beads
A 16-color T-cell immunophenotyping panel with peripheral blood mononuclear cells (PBMCs) that were isolated from normal blood and stimulated with 5 μg/mL anti-CD3, 2 μg/mL anti-CD28 and 100 ng/mL IL-2 for 9 days before flow cytometry analysis on the Agilent NovoCyte Advanteon.
The Ultimate Photodetector

Our silicon photomultiplier delivers photon-level sensitivity

Silicon photomultipliers (SiPM) are solid-state, semiconductor devices. With a compact array of avalanche photodiodes operating in unison, the SiPM can be configured to provide photo-counting capability. The innovative optical design within the NovoCyte Advanteon incorporates 21 independent SiPM, which collect light on each and every channel, with sensitivities that far exceed the traditional PMTs.

Advantages of SiPM
- Superior photon detection sensitivity
- High gain and high quantum efficiency
- Instantaneous warm-up and fast response
- Robust and long lifespan
- High durability

High-performance fluorescence detection to resolve the dimmest of signals

<table>
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<tr>
<th>Waveband</th>
<th>Graphs</th>
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<tbody>
<tr>
<td>405 nm</td>
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<tr>
<td>640 nm</td>
<td><img src="image3" alt="Graphs" /></td>
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</tbody>
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Actual image of SiPM and schematics to show its photon-level sensitivity as well as its arrangement as an array of avalanche photodiodes.
Superior scatter resolution to detect small particles

NovoCyte Advanteon scatter detection optics and signal processing electronics have been optimized to resolve particles down to 0.1μm in size. With such superior resolution, platelets, bacteria, and various submicron particles can be readily identified and analyzed.

Flexible and upgradeable configurations

With “smart” filter sets, the NovoCyte Advanteon always knows when a filter is changed, provides instantaneous feedback, and reports accordingly.

<table>
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<tr>
<th>Lasers</th>
<th>405 nm</th>
<th>488 nm</th>
<th>561 nm</th>
<th>640 nm</th>
<th>Max. No. of Fluorescence Channels</th>
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Consistent results, fast or slow

The fluidic feedback control mechanisms found on the NovoCyte Advanteon consistently maintain exceptionally steady flow rates. The superior stability across a wide range of sample flow rates provides consistent results under variable operating conditions. As shown here, the CVs at different flow rates are dramatically improved over other systems on the market.
Streamline Your Experiment's Design, Setup, and Data Analysis with NovoExpress Software

**Proven and now even more advanced**

- Use one software interface for sample acquisition and data analysis
- Analyze acquired data in real time during flow experiment to maximize productivity and efficiency
- Customize statistical parameters with live updates when running samples
- Get powerful compensation tools with convenient adjustments that enable accurate pre- and post-acquisition compensation
- Enjoy the convenience of batch analysis and reporting
- Easily create publication-quality figures with customizable plot scales, fonts, and legends
- Export as FCS (3.0, 3.1) or CSV files, import FCS files for analysis

**Advanced data analysis is made easy by NovoExpress**

- Drag-and-drop functionality to copy settings/analysis
- Batch statistics using the statistical table

- Cell proliferation modeling
- Cell cycle analysis
- Heat map data display
- Histogram overlay (half-offset)
The NovoSampler Q

The ultimate autosampler with flexibility and performance built in

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

- 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 mins or faster, for a 96-well plate and <80 mins for a 384-well plate
- Reliable orbital shaking keeps samples in suspension at all times, which is important in dosing experiments where cell settling would skew the results.
- Fully integrated barcode reader provides rapid sample identification and tracking

Automated, high-throughput sample acquisition

- 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