

About Challenbio

Beijing Challen Biotechnology Co., Ltd. is an innovative biotechnology company specializing in flow cytometry technology. With a focus on technological innovation and customer needs, we have established a comprehensive solution that covers instrument development, reagent manufacturing, and technical services. Our independently developed Long-Cyte®, FongCyte™ series, and flagship full-spectrum flow cytometry instrument, CytoStellar™, offer nano-level detection precision and intelligent analysis systems. These solutions have served over 1,300 research institutes, clinical institutions and biopharma companies worldwide. The company has obtained ISO 9001 and ISO 13485 quality management system certifications and is committed to becoming a global leader in high-end flow cytometry instruments and associated biomedical technologies.

Company Culture

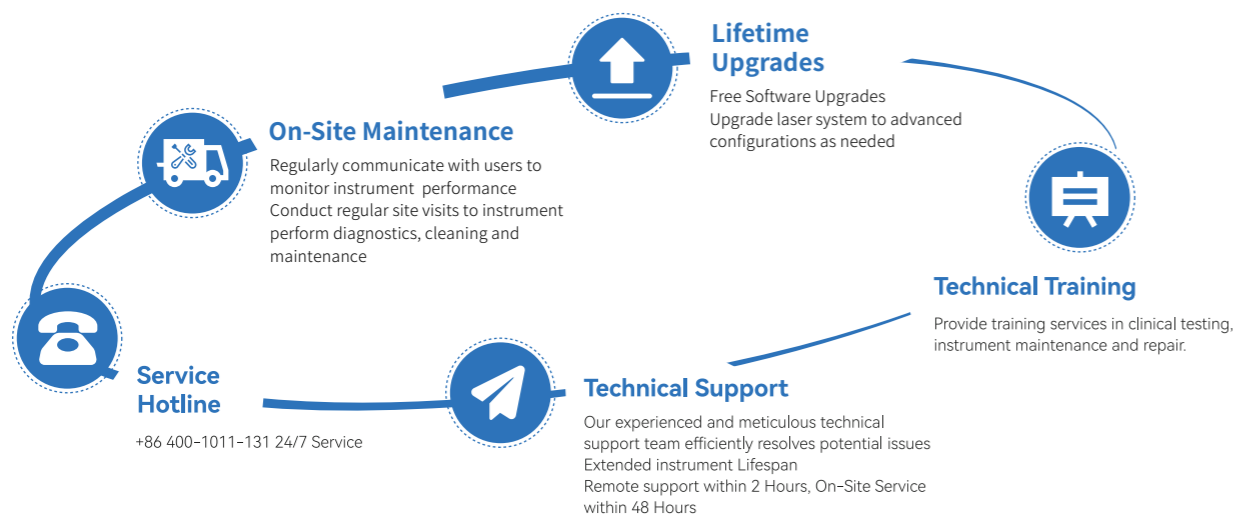
Mission: To create a vibrant world and safeguard the beauty of life.

Vision: To become a global leader in biomedical technology.

Values: Excellence, Dedication, Collaboration, and Mutual Success

After-Sales Service

Challenbio Service-Always by Your Side



Beijing Challen Biotechnology Co., Ltd.

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Version: 11-CA-BRO-2508.REV.1.0 (E)



Spectra Made Simple
Insights Made Smarter

CytoStellar™ DX

Full-Spectrum Flow Cytometry Analyzer



Colorful World
Beautiful Life

Beijing Challen Biotechnology Co., Ltd.

Transforming Cell Analysis with Innovation

Redefining the Boundaries of Cell Analysis with Breakthrough Technology, Integrating Advanced Optic Systems, Intelligent Algorithms and Fully Automated System Design to Usher in a New Era of Precision Medicine and Life Sciences. Innovative Optic Architecture and Full-Spectrum coverage, offering unlimited Fluorochrome Flexibility for Unrestricted Research Design. Equipped with 3 lasers and 41 detection channels, our system supports simultaneous detection of over 30 colors, breaking through the limitations of traditional multi-color flow cytometry.

Unmatched Precision

Unique Spectral Splitting Technology Combined with Dual Thermal Control Optical System to enhance Sensitivity and precisely capture spectral characteristics.

Advanced Intelligence

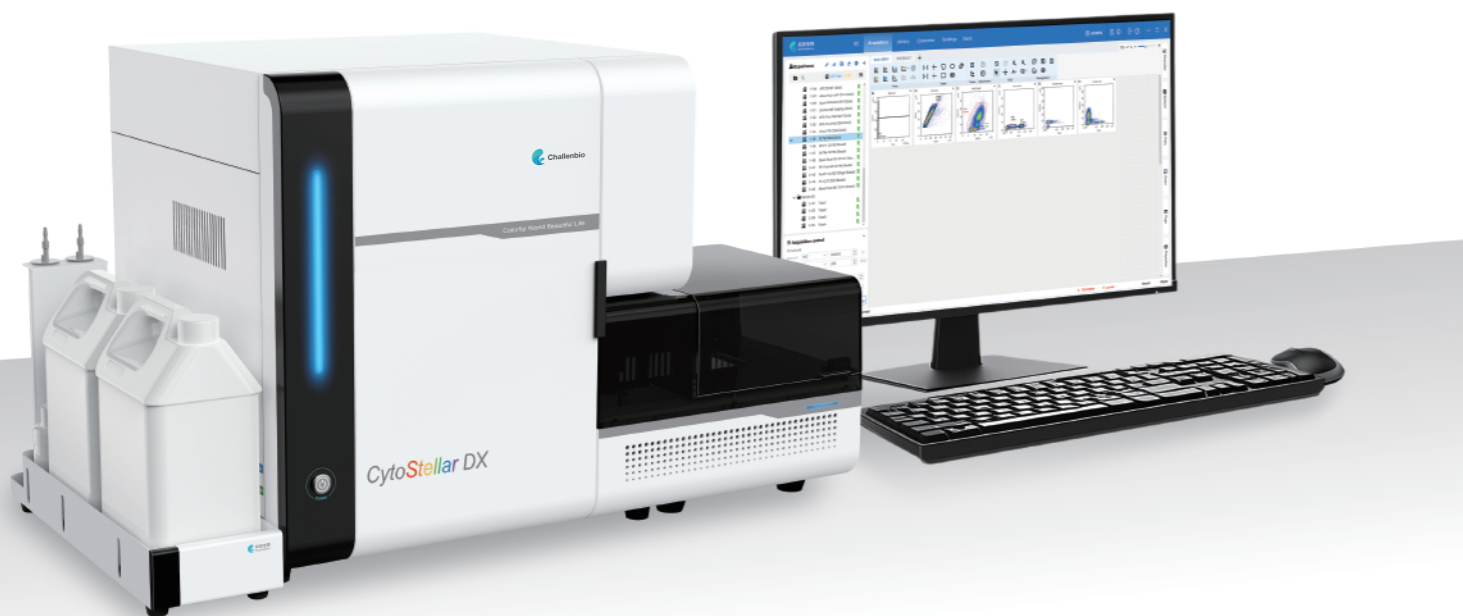
Customizable Power-On/Off, Guided operation, One-Click Spectrum Library Import and Unattended Maintenance simplify operations and minimize labor effort.

Superior Efficiency

Quick QC in 3 minutes, High-Speed Sampling with Multiple Carriers Options, and independent Real-Time Unmixing between sample tubes, saving time and maximizing efficiency.

Outstanding Standardization

The Audit Trail function creates a complete tracking system from data acquisition to archiving. Experiments are exportable and shareable, enabling result comparability and driving research standardization and collaboration.



Empowering High-Dimensional Analysis for Greater Insights

| | | |
|---|--|--|
| | | |
| <p>☹️ Dyes with similar emission wavelengths are difficult to distinguish, complicating panel design.</p> | <p>☹️ Cells' autofluorescence and inefficient correction could interfere with flow cytometry accuracy.</p> | <p>☹️ The multi-color fluorescence compensation is complex, significantly increasing the difficulty of data analysis and interpretation.</p> |
| <p>😊 CytoStellar™ employs optimized Least Squares Spectral Unmixing Algorithm, using mathematical modeling to accurately separate mixed fluorescence signals, effectively distinguishing similar fluorochromes and enabling more flexible multi-color panel design with ease.</p> | <p>😊 CytoStellar™ supports automatic unmixing of multiple autofluorescence signals, removing interference and precisely presenting experimental results.</p> | <p>😊 CytoStellar™ leverages unique spectral fingerprint information to enable near 'no-compensation' flow analysis.</p> |

Configurable with up to 5 lasers



| | | | |
|-------------------|---------------------|---------------|------------------|
| CytoStellar DX 01 | 3 Laser 37 Channels | FSC/BSSC | B15YG12R8 |
| CytoStellar DX 02 | 3 Laser 45 Channels | FSC/BSSC/VSSC | V19B15R8 |
| CytoStellar DX 03 | 3 Laser 49 Channels | FSC/BSSC/VSSC | V19B15YG12 |
| CytoStellar DX 04 | 4 Laser 57 Channels | FSC/BSSC/VSSC | V19B15YG12R8 |
| CytoStellar DX 05 | 4 Laser 58 Channels | FSC/BSSC | UV21B15YG12R8 |
| CytoStellar DX 06 | 4 Laser 66 Channels | FSC/BSSC/VSSC | UV21V19B15R8 |
| CytoStellar DX 07 | 4 Laser 70 Channels | FSC/BSSC/VSSC | U21V19B15Y12 |
| CytoStellar DX 08 | 5 Laser 78 Channels | FSC/BSSC/VSSC | UV21V19B15YG12R8 |



Ultraviolet Laser 349nm-21 Channels | Violet Laser 405nm-19 Channels | Blue Laser 488nm-15 Channels | Yellow-Green Laser 561nm-12 Channels | Red Laser 638nm-8 Channels

Powerful Detection Capabilities

Worry-Free Fluidics, Low Consumption, High Sampling Efficiency and Long-Lasting Stability

Sheath Addition Without interruption Ongoing Tests

Dual sheath fluid system enables real-time sheath addition without interrupting tests, ensuring seamless operation throughout.

Automatic Tube-to-Tube Cleaning

Automatic cleaning of inner and outer sample needle during testing, reducing carryover contamination risk.

Large Volume Collection

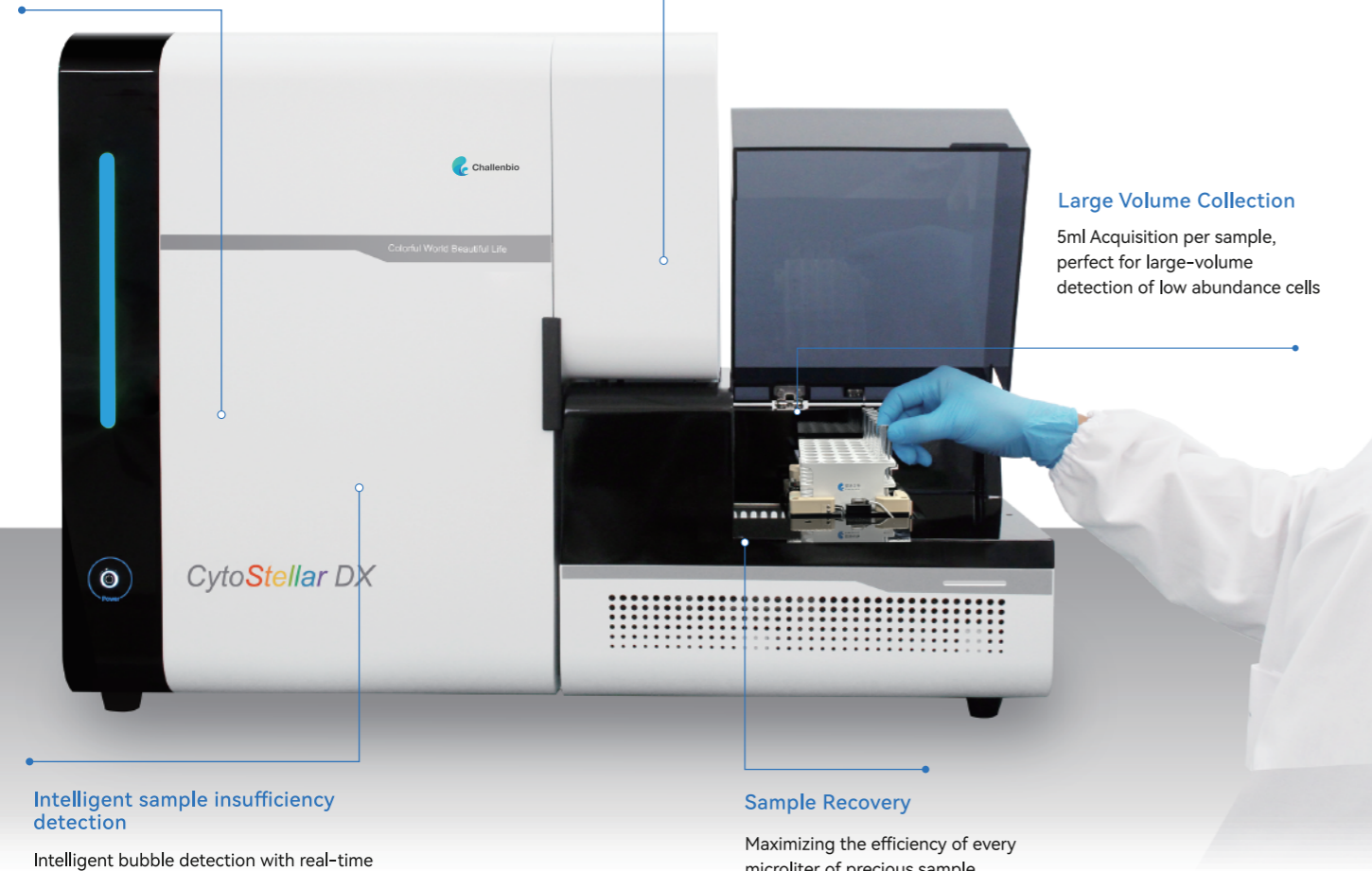
5ml Acquisition per sample, perfect for large-volume detection of low abundance cells

Intelligent sample insufficiency detection

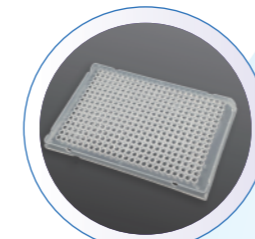
Intelligent bubble detection with real-time monitoring to prevent bubble interference in Fluidics, ensuring accurate testing even with limited sample.

Sample Recovery

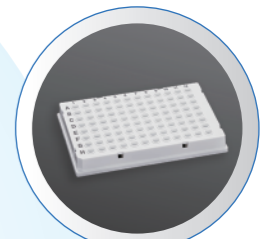
Maximizing the efficiency of every microliter of precious sample



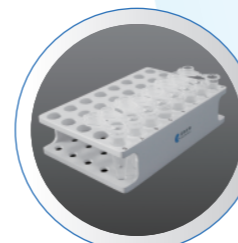
High Throughput Without Compromising Sample Viability



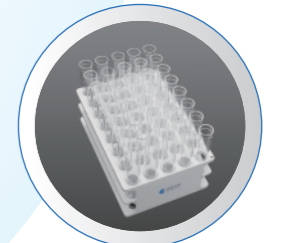
384 Well Plate



96 Well Plate



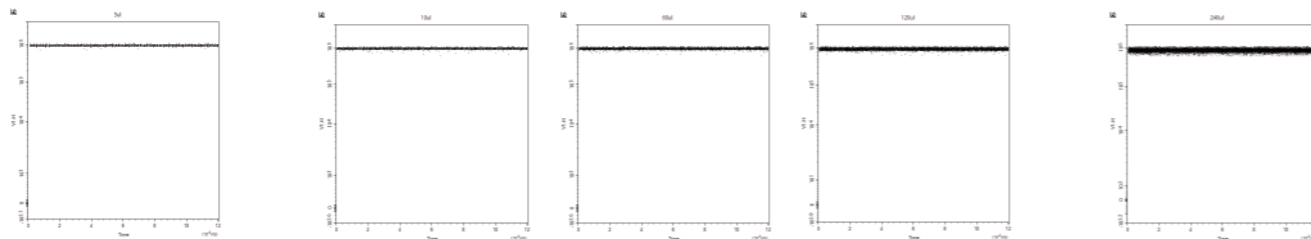
Microcentrifuge tubes-40 tubes per rack



5ml Flow Tube(12 × 75mm) —40tubes per rack



| Ultra-Low | Low | Medium | High | Ultra-High |
|---------------|----------------|----------------|-----------------|-----------------|
| 5 μ L/min | 10 μ L/min | 60 μ L/min | 120 μ L/min | 240 μ L/min |



Stable results ranging from 5 μ L/min to 240 μ L/min, regardless of sample flow rate.

Flexible Sample Loading Solutions

Seamlessly compatible with 96-/384-well plates, 12×75 mm flow tubes, and microcentrifuge tubes — meet the needs of diverse sample formats with one flexible system.

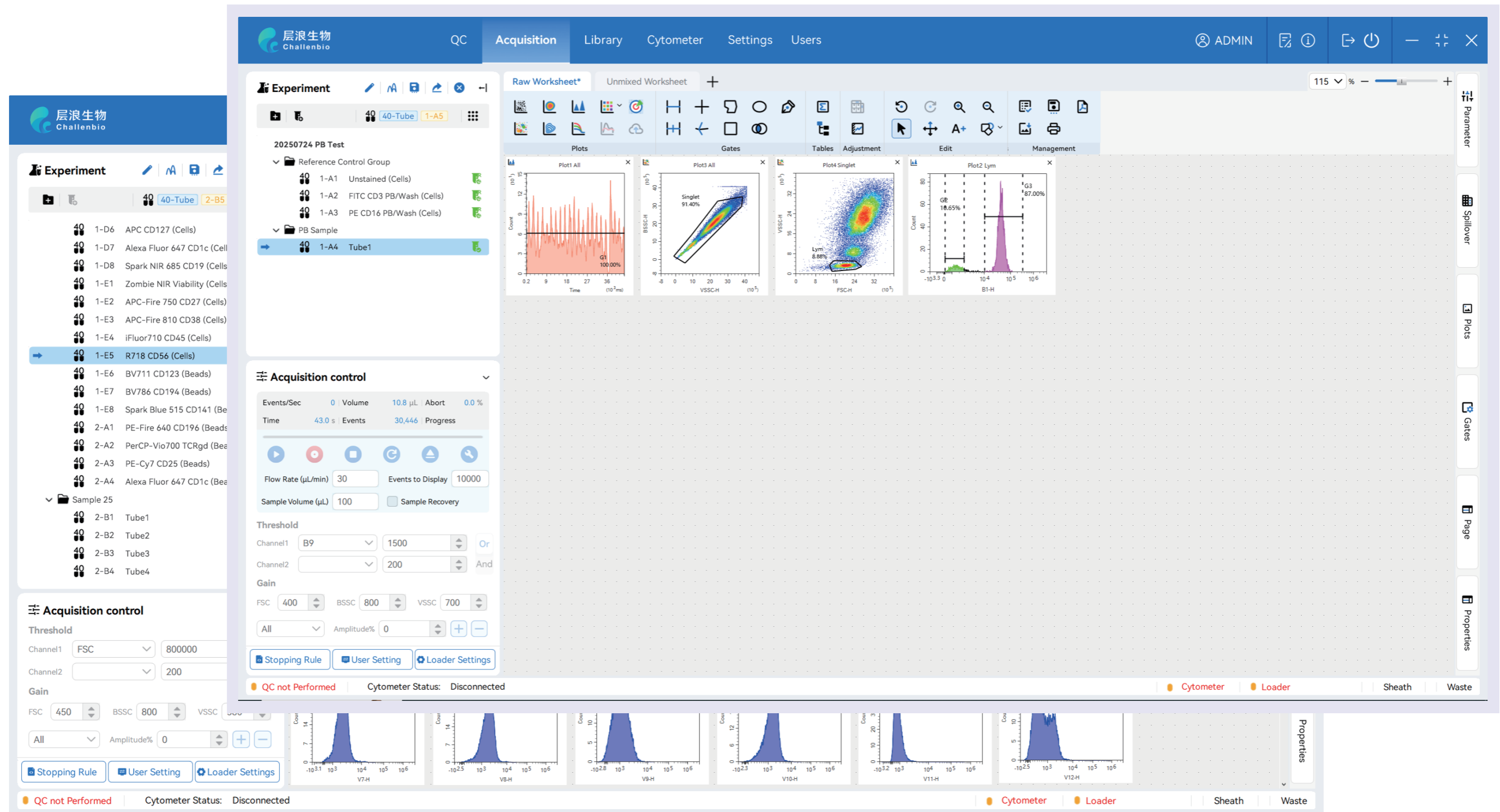
Continuous, Infinitely Adjustable Temperature Control

Continuous Temperature Control from 4°C to 37°C with Dual Peltier Modules Ensures Consistent Well-to-Well Conditions and Optimal Sample Viability.

Customizable Mixing Modes for Various Sample Types

Customizable Mixing Time and Intensity for Efficient Handling of All Sample Types.

Intelligent Analysis Software——IsFlower



Intuitive and Streamlined User Interface

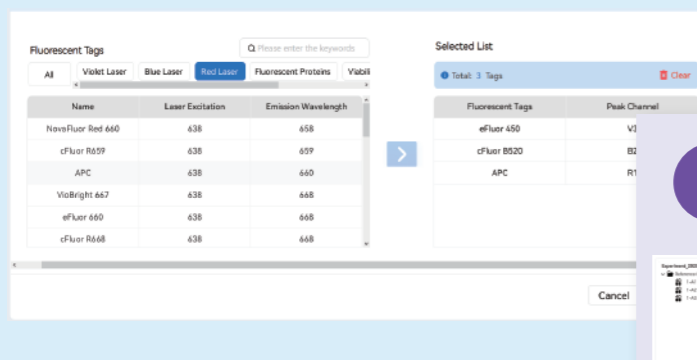
Guided Workflow for Effortless Mastery of Spectral Flow Cytometry

GPU Acceleration Enables High-Speed Analysis of 100M+ Events

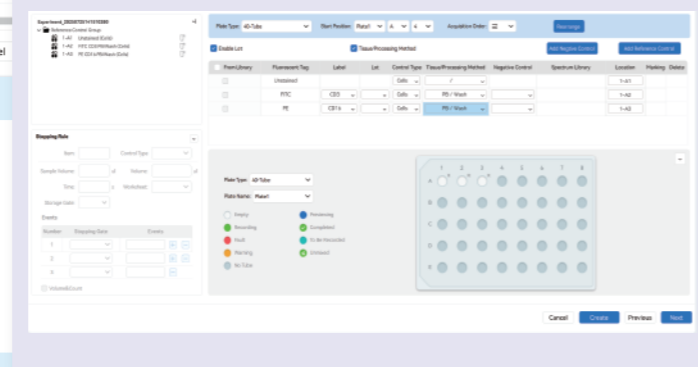
Simple and Streamlined Operation

Guided Experimental Workflow

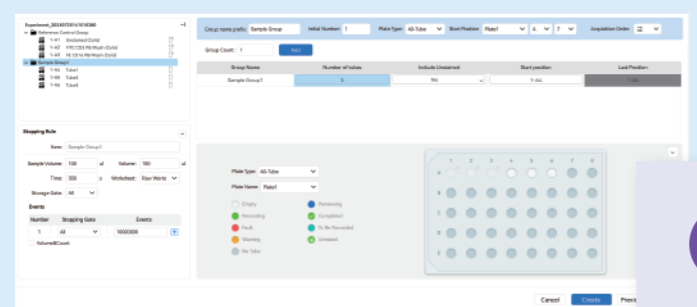
1 Fluorochrome Selection



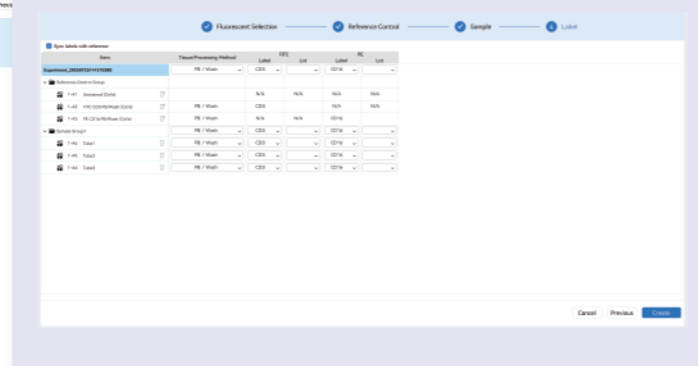
2 Reference Control Setup



3 Sample Setup



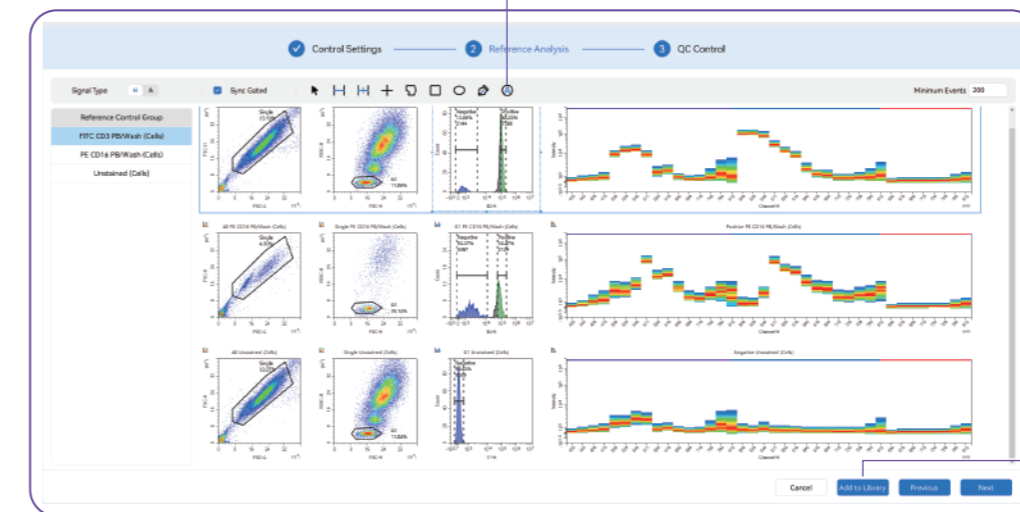
4 Label Setup



Automatic Spectrum Processing

- Single-Stain Unmixing with Automatic Gating of Positive and Negative Populations
- One-Click Spectrum Import
- Seamlessly integrates with Worklist for rapid experiment creation and efficient batch sample processing

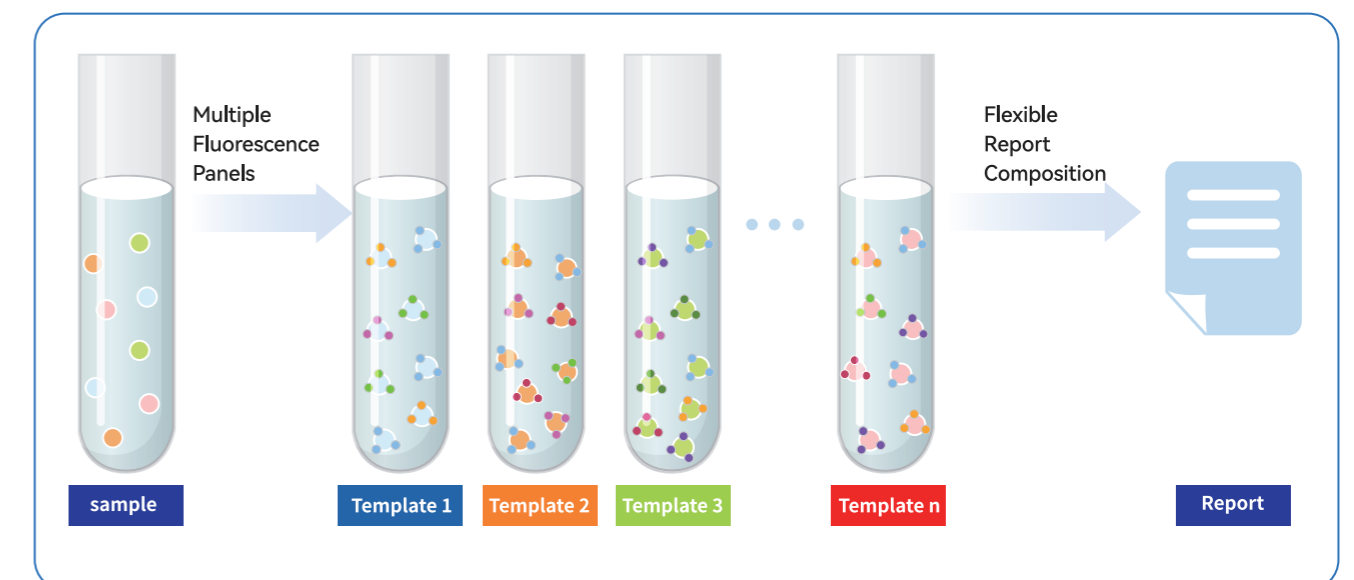
A Auto Gating



One-Click Spectrum Library Import

Tube-Specific Unmixing with Flexible Fluorescence Panel Design

- Tube-to-Tube Spectral Independence, Fully Flexible Panel Design
- Consolidate data from multiple tubes into one report

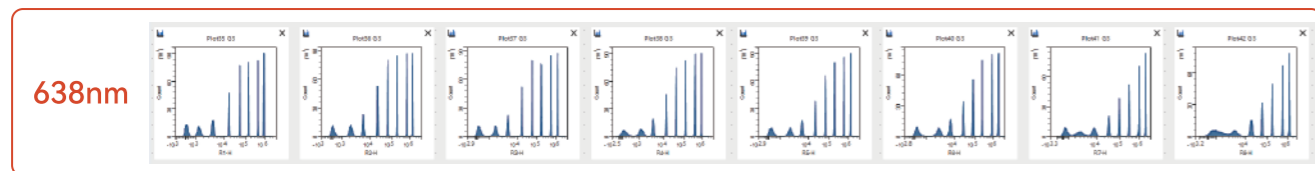
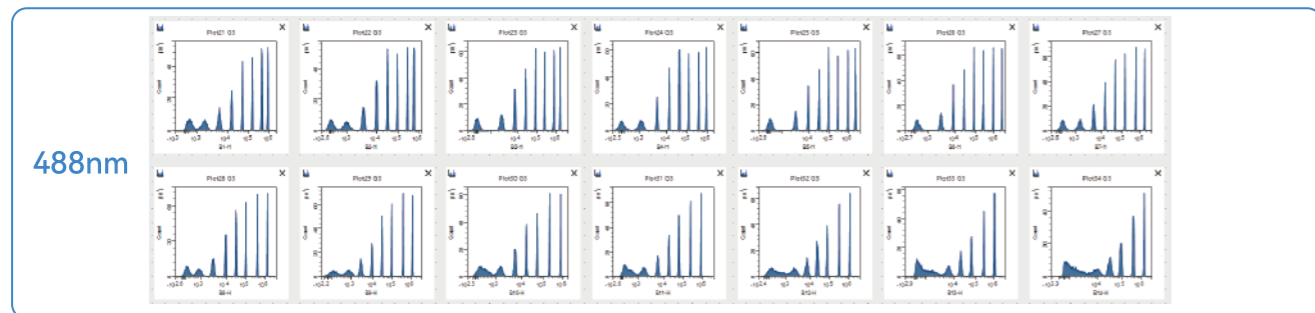
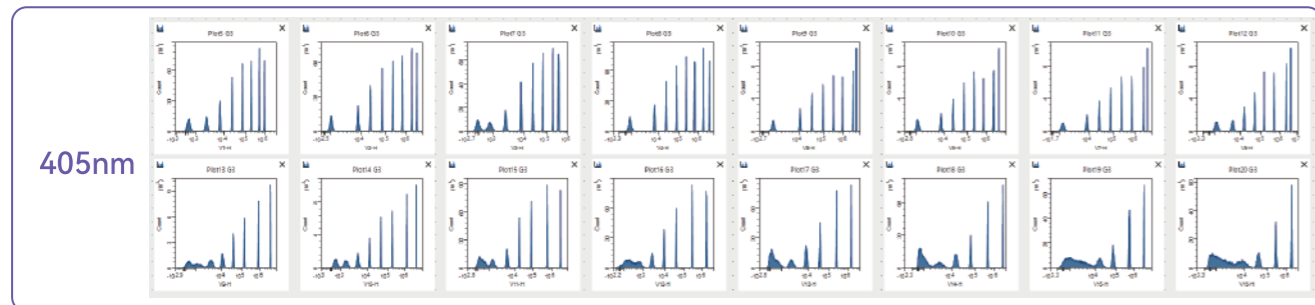
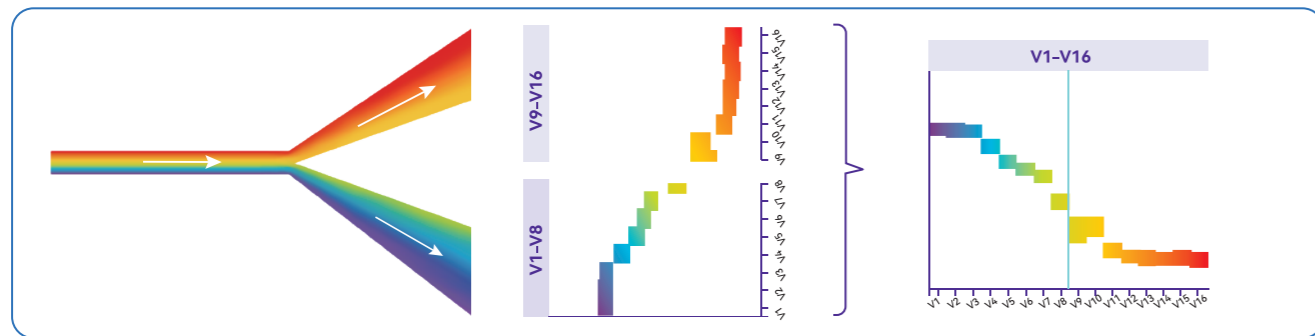


Exceptional Performance

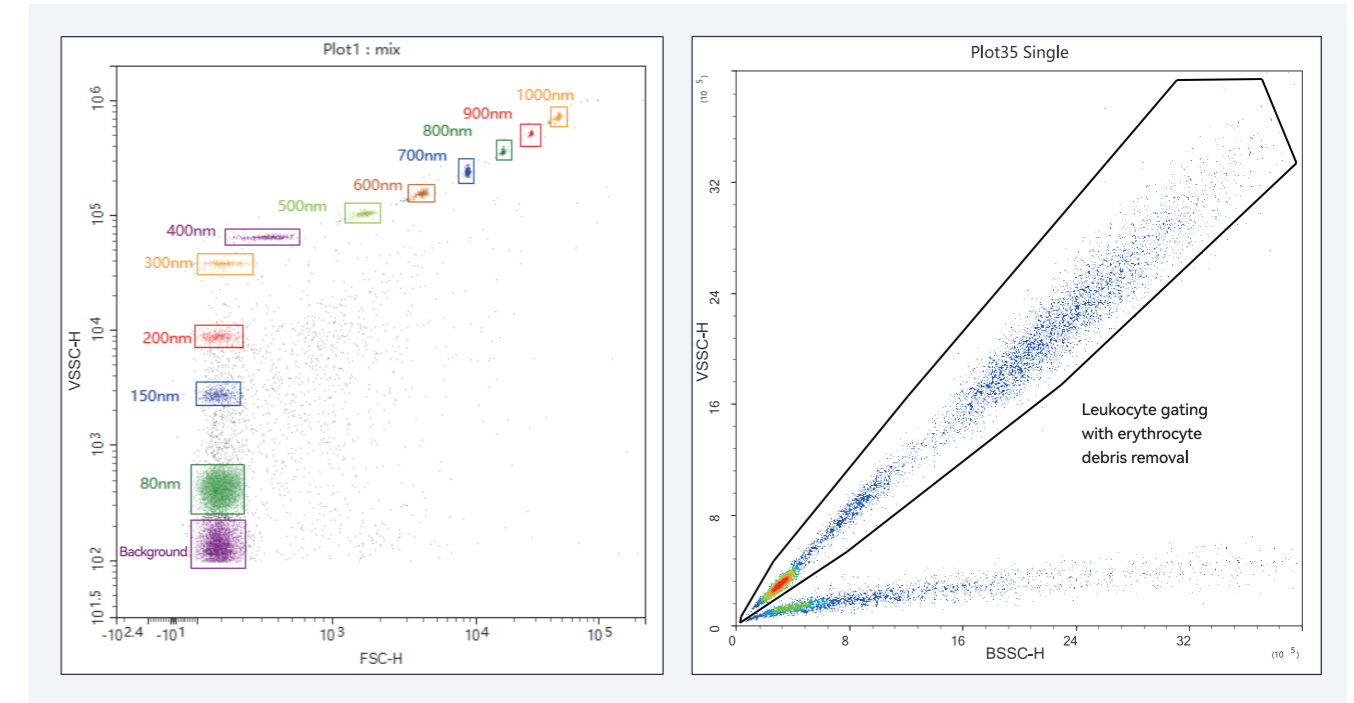
Breakthrough Optical Technology for Weak Signal Detection

Revolutionizing Optical Efficiency

Proprietary "Y"-shaped reflective spectral splitting technology minimizes optical reflection loss. Combined with a single-reflection optical path and a fully temperature-controlled optical system, it significantly enhances the detection of weak fluorescence signals.



VSSC Breaks Through Detection Limits, Unlocking Innovative Applications



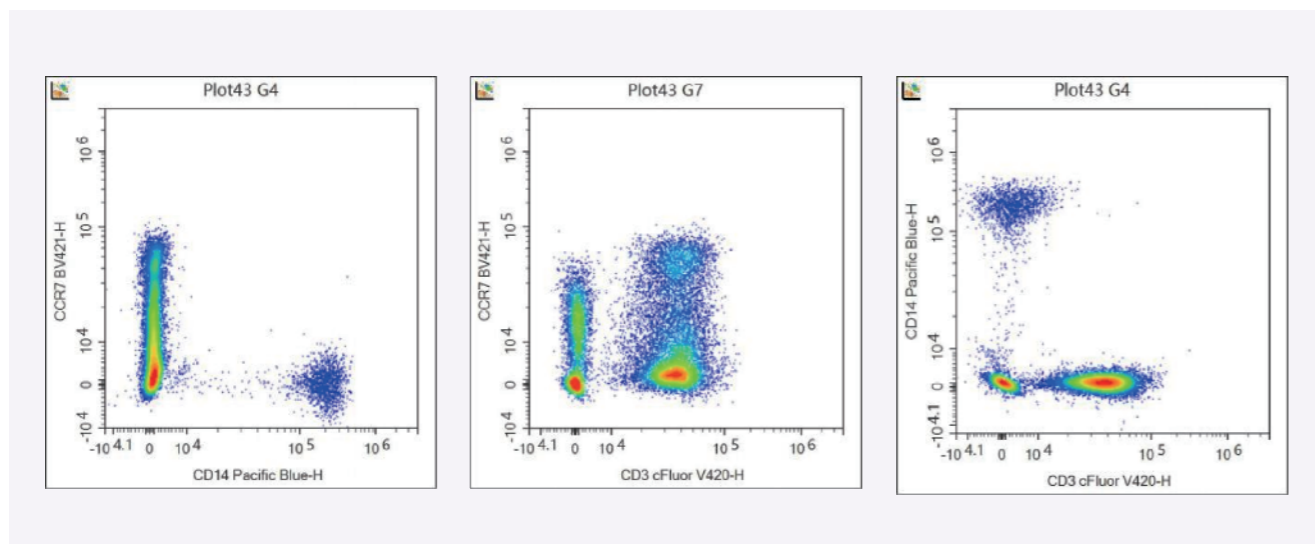
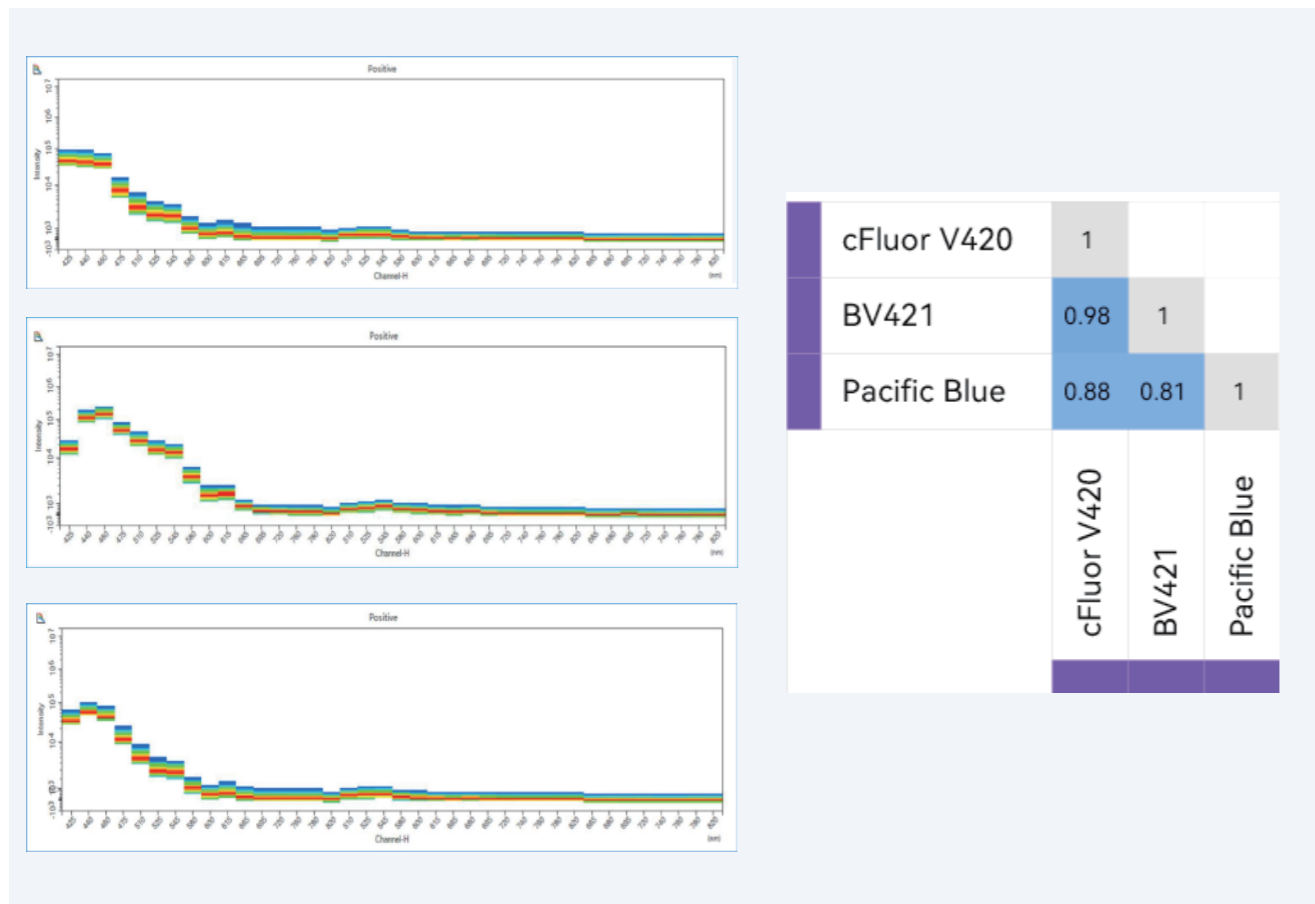
With Violet Side Scatter Channel (VSSC) technology breaking through the 80nm detection limit, it enables a broad particle detection range from 80nm to 1 μ m. Perfectly suited for precise analysis of heterogeneous populations including bacteria, viruses, nanoparticles, and extracellular vesicles (EVs).

Hemoglobin in erythrocytes absorbs violet light, resulting in a weaker VSSC (Violet Side Scatter Channel) signal compared to BSSC (Blue Side Scatter Channel) under the same conditions. This enables label-free identification of erythrocytes from other cell populations, effectively excluding debris interference.

Exceptional Performance

High-Resolution Spectral Detector

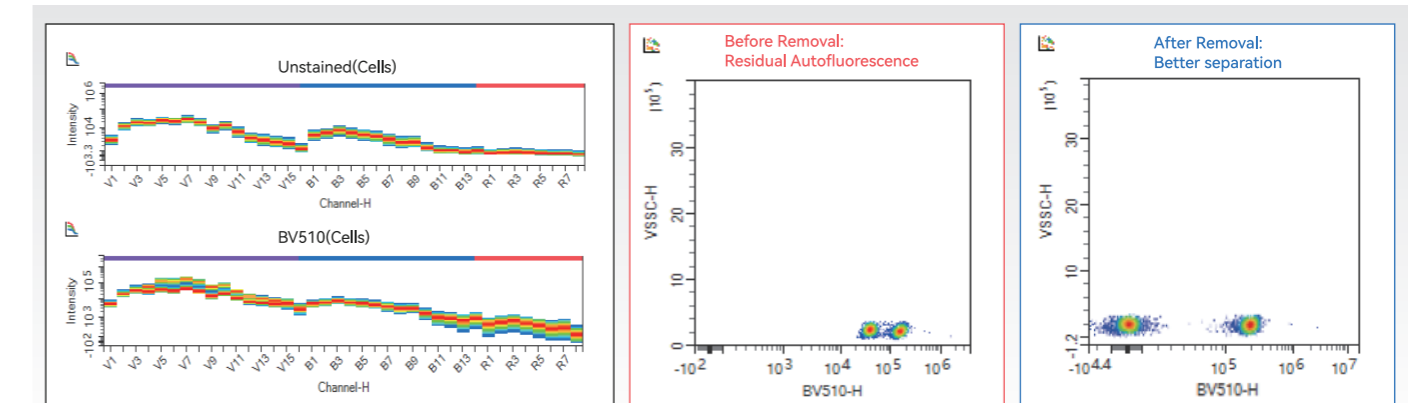
Integrated Multi-Channel APD Array delivers ultra-high spectral resolution, enabling optimal use of highly overlapping fluorochromes.



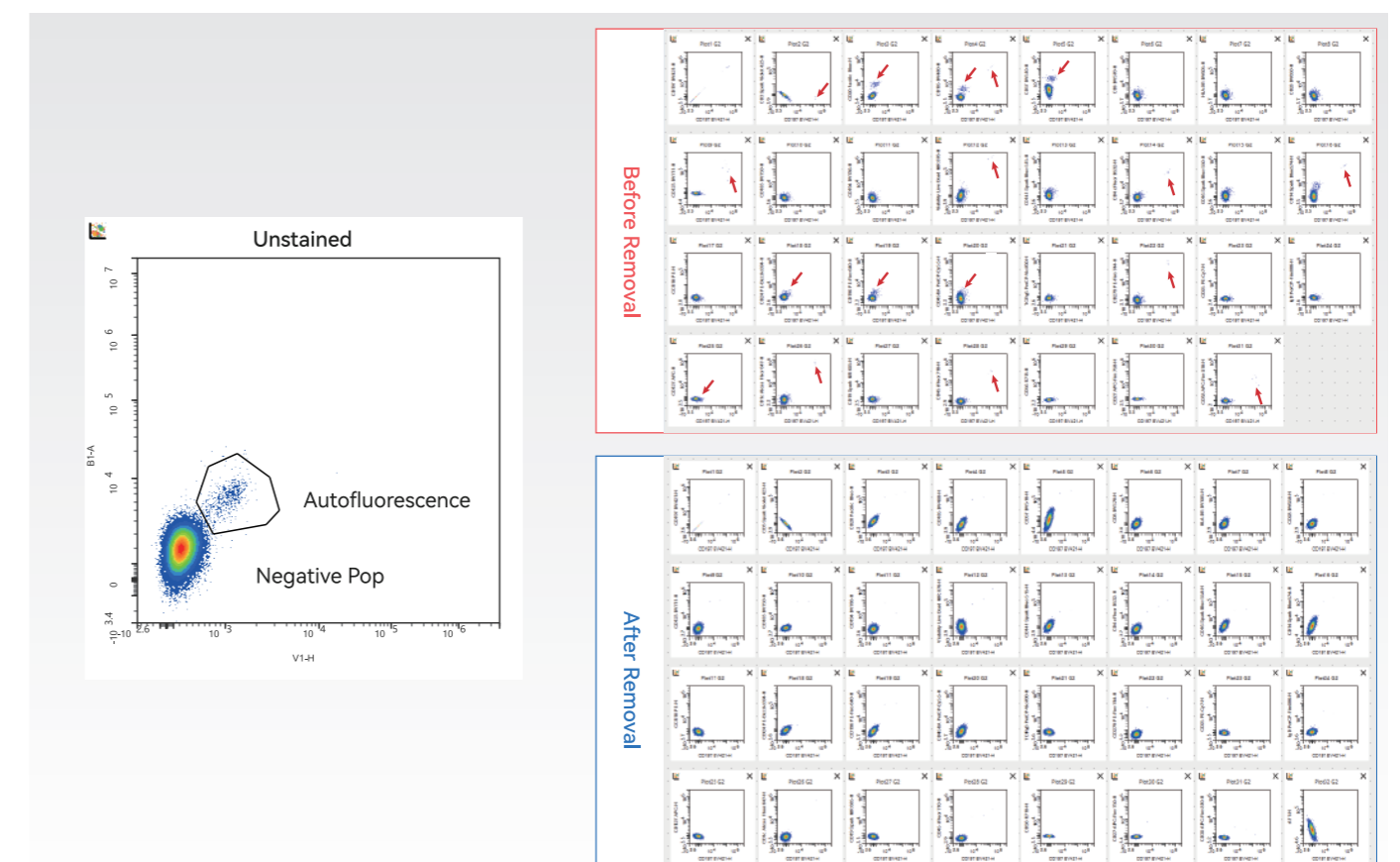
Smart Auto-Fluorescence Extraction

One-click autofluorescence extraction and multidimensional unmixing powered by innovative algorithms — delivering precise analysis for complex samples.

Improve signal-to-noise ratio



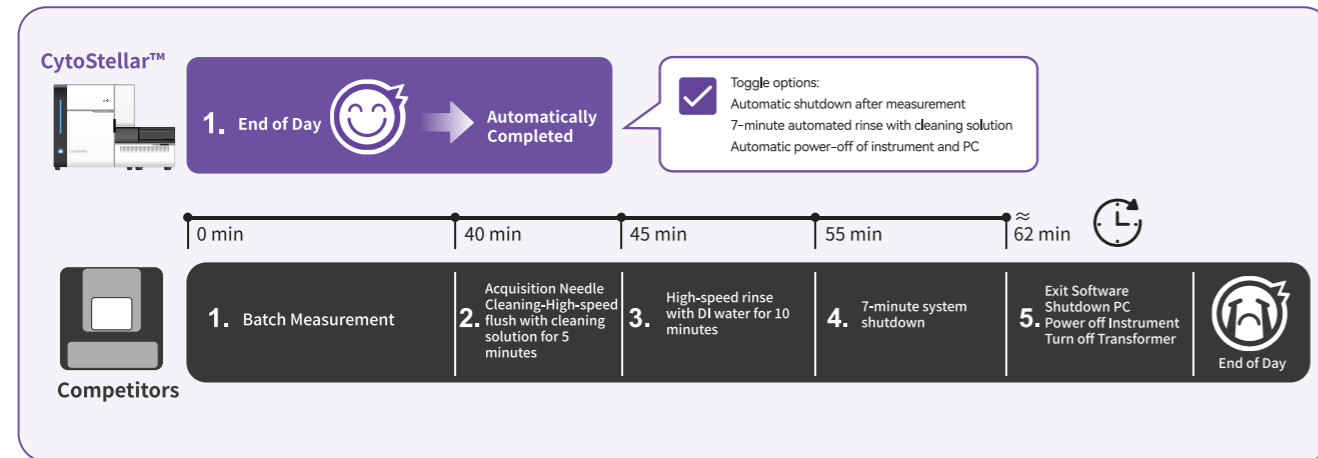
Eliminate background interference



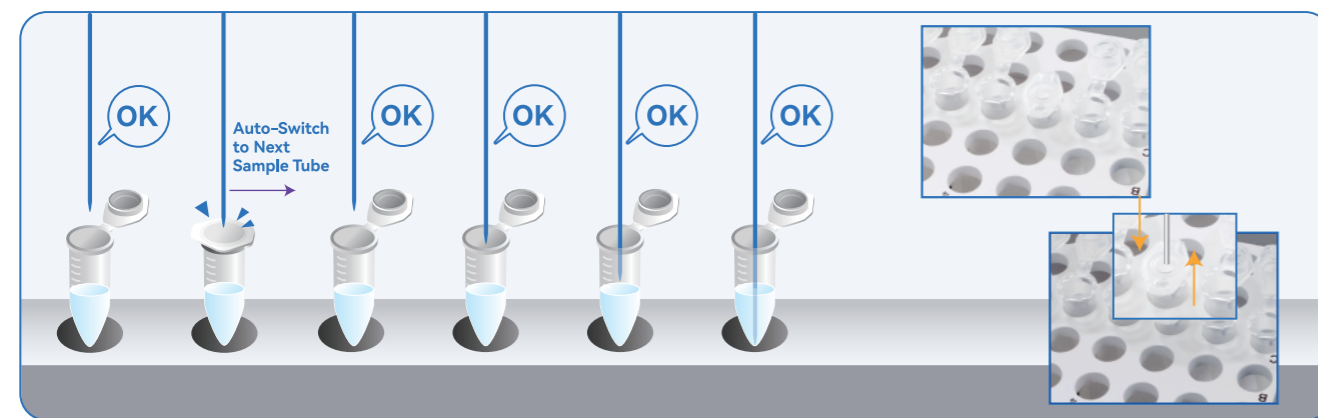
Smart Maintenance Made Easy and Reliable

Smart One-Touch Startup/Shutdown, Scheduled Operation and User-Defined Maintenance
Smart Anti-Collision + Clog Detection Alerts + Comprehensive System Monitoring, ensuring long stable performance.

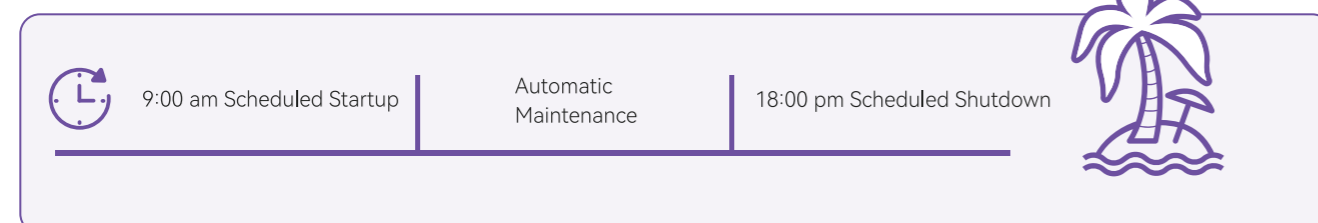
Smart Cleaning



Intelligent Anti-Collision



Scheduled Self-Maintenance



Standardized Compliance System

Fully Traceability

Fully compliant with 21 CFR Part 11 regulatory standards, including audit trail logging and electronic signature features. Supports three-level user access control to meet both research and clinical compliance requirements.

