Navios Now — Because Every Event Matters
Powerful, Dependable 10-Color Flow Cytometry

Because we understand the power inside every cell, we designed the Navios flow cytometer to capture the information you need to make critical informed decisions.

Developed to meet the needs of busy cellular analysis laboratories, the Navios flow cytometer delivers highly sensitive detection, unsurpassed data interrogation, more information per event, and exceptional workflow efficiencies. The Navios enables seamless transition from lower complexity assays to advanced applications. You can trust the Navios to deliver consistent results, with software tools that ensure robust quality control and audit capabilities, as well as hardware features such as single tube vortex capability, built-in thermoregulation, and 1,048,576 channel resolution for high quality results. Backed by the proven expertise of Beckman Coulter, the Navios gives your lab powerful, worry-free performance along with reduced costs and a highly streamlined workflow that adapts easily to your changing needs.

CE marked for 10-color in-vitro diagnostic use. In the U.S., Navios is intended for use as an in-vitro diagnostic device for immunophenotyping with Navios tetra software and CYTOSTAT tetraCHROME reagents. All other uses are for research use only.
Every event matters…

are you getting the most out of your data?

With the Navios you get best-in-class resolution independent of sample acquisition rates, thanks to the optimized optics and electronics that enable fast, accurate signal measurement even at high event rates.

The Navios achieves superior submicron particle resolution as a result of a unique amplification of the wide angle forward scatter signal as well as low noise in the electronics and the 488 laser.

Bring highest integrity data within reach

The Navios enables you to distinguish a wide range of populations easily with patented designed electronics that ensure high sensitivity and resolution. With 20-bit resolution, the system offers 1,048,576 channels of dynamic range for greater flexibility in experiment setup by providing excellent resolution across 6 decades. The system’s unique pulse processing design, including a 40 MHz digital sampling rate, collects a greater amount of data per event. This is preserved even at higher event rates while minimizing errors that result in poor sensitivity and resolution.

The Navios takes scatter resolution to another level with an innovative enhanced forward scatter that enables submicron particle resolution via amplification of the wide-angle signal.

Reveal phenotypes with more colors

A phenotype that is not visible with four or five colors can be revealed when using a higher number of colors—and with fewer tubes, less reagents, less specimen, and less labor, ultimately saving you time and money. With the 10 color capability of the Navios you can analyze clonal phenotypes more accurately and gain additional information from your assays.

With the 10 color Navios system you can achieve consistent results while minimizing variations across tubes—plus you get higher quality results as you are able to reveal the relationship of events across 12 parameters.

Other Analyzers

Navios Analyzer

2 second cycle time (10 MHz DSP).

0.5 second cycle time (40 MHz DSP).

2 forward scatter angles

WBC RBC Microvesicles

Narrow 1°–19°

Wide 1°–19°

Flow Cell

The first set of plots show the white blood cell (WBC) pattern using either setting. The second set of plots show the scatter pattern for red blood cell (RBC) microvesicles in both settings. These small cells are more accurately enumerated when using the wide angle settings.

488nm Excitation  633nm Excitation

FITC PE ECD APC

405nm Excitation  488nm Excitation  633nm Excitation

Pacific Blue Krome Orange  FITC PE  ECD PC5.5 PC7  APC APC A700 APC A750

Flow Cell

4 tubes using 4 colors with 3 backbone redundancy markers.

Easily transition to a single 10-color tube using less reagents.

Data courtesy of E. Michael Meyer, UPCI University of Pittsburgh; Chaw C. Dupont and Mark S. Glazer, UPMC; Albert D. Donnenberg, University of Pittsburgh School of Medicine.

488nm Excitation  633nm Excitation

FITC PE  630bp APC

633nm Excitation

Primarily Used: Viova Orange

ECC PE EC2 PC5.5 PCT

AFC APC-A700 APC-A750

Advanced Cellular Analysis Solutions

the full spectrum of Flow Cytometry

4 tubes using 4 colors with 3 backbone redundancy markers.

Easily transition to a single 10-color tube using less reagents.
Migrate assays requiring several tubes to a single 10-color analysis, and eliminate the need for intra-panel consistency checks.

"The quantity of data obtained using the Navios is significantly increased allowing more sensitive detection of minor aberrant populations."

Amr Rajab, Charge Technologist, Flow Cytometry Laboratory Medicine Program, Toronto General Hospital, Toronto, Canada.

Together, with high performance electronics, the Navios features a patented optical design that ensures maximum laser power delivery and preservation of emitted fluorescence in order to provide exceptional signal to noise resolution. As a result, you are able to achieve significant separation to resolve small and dim cell populations.

Complex mixtures of phenotypes can be clearly resolved using 10 colors reducing the need for redundancy across tubes. Data shown is for research use only applications.

(Example data from a 10 color human whole blood sample). Data shown is for research use only applications.
Why 10 colors?
Scaling up to 10 colors with the Navios will bring more data within reach, with fewer tubes, less antibody usage, minimal variability across tubes, and faster turnaround times. Comprehensive and consistent 10-color analysis also supports a much leaner workflow than labs typically experience with three- to five-color analysis.

Gain time and conserve sample
Accelerate your throughput with the power and flexibility of three-laser and 10-color Navios. The exceptional design of the Navios electronics maintains a high yield of processed signals, with recovery of 90% at approximately 25,000 events/sec., giving you the confidence to run at high data rates so that you can get your results in less time.

As a result, the efficient event processing combined with higher data rates allows you to confidently use less sample volume to achieve the same total count.

Moreover, by using less tubes in a 10 color assay, you will reduce pipetting steps in sample preparation and simplify your inventory management.

In addition, the Navios offers additional productivity benefits including offline set-up of testing protocols and worklists, giving you more instrument runtime.

Reduce costs
Fewer tubes mean less of what costs you money—reagents, labor, and, consumable storage. When using a 10 color solution, you can save on waste that may result from errors due to sample prep and analysis of up to 4x the number of test samples.

“We moved from fourteen 4-color tubes to four 10-color tubes, streamlining analysis while conserving specimens, labor, and consumables.”

“[We] consider Navios a breakthrough because the system helps us to tackle all the obstacles we face in our lab including improving our turnaround time, increasing our productivity and increasing the sensitivity in all applications.”
Amr Rajab, Charge Technologist, Flow Cytometry Laboratory Medicine Program, Toronto General Hospital in Toronto, Canada.

What time does your workday start?
The Navios task scheduler warms up the system at a predetermined time so the lasers are ready to start when you are. Also use the scheduler to shut down once the instrument has finished walk-away data acquisition.
Maintain your sample integrity

With its single tube vortex capability, the Navios maintains sample integrity throughout a run. In addition, the Navios’s thermoregulation system maintains the optical area at a consistent temperature, assuring reliable data while minimizing laser downtime and maintaining compensation settings. The AutoSetUp Wizard guides you step-by-step through quality assurance, and Quality Wizards track updates automatically through Levey-Jennings graphs, ensuring data integrity over time. The Wizard works with our Flow-Check Pro beads to facilitate daily instrument verification and Flow-Set Pro beads that provide instrument standardization for applications.

Maximize instrument uptime

The optional ProService provides secure performance monitoring and diagnostic capability. The system alerts operators to problems and following laboratory permission, connects directly to technical support and field engineers to minimize downtime by triggering preemptive service actions. Service engineers can diagnose and even correct problems remotely and ensure service visits are minimally intrusive by having thorough instrument history before arrival.

The Navios is fully compatible with automated sample preparation modules for seamless workflow solutions. The PrepPlus II delivers precision pipetting of reagents, samples, controls and calibrators into secondary tubes; flexible software programming of reagents, controls and pipetting parameters; and improved safety with closed-tube sampling. Whole blood sample preparation is automated when run in conjunction with the TQ-Prep* for rapid, no-wash lyse and fix. The standard 32-tube carousel allows for walk-away sample processing and handles high volumes of tests with ease.

Maintain your sample identification throughout

The Navios incorporates four-way on-board barcode identification (Carousel ID, Position ID, Primary Sample ID, and Daugther Tube ID). With the Navios it’s easy to track and maintain sample identification from order entry to report generation, and to trace sample status in real time.

Every result matters... how do you maximize your data quality assurance?

Experience the trust that comes from assurance in the consistency of your results. The Navios is engineered to deliver consistent, dependable results day-to-day, and week-to-week.

Simplify data management

The powerful, yet easy to setup Data Innovations LIS is an optional software package that enables you to manage test orders, create worklists automatically, minimize manual data entry, track samples throughout the testing process, and eliminate transcription errors in the reporting process. The system automatically sends test requests and demographic information to the Navios, and transmits test results that meet user-defined criteria.

With the ability to map several Navios result databases to a networked review station in a centralized database, the system allows maximum instrument usage, allowing review and release of test data offline to your LIS or other middleware solution.

Your choice: Pro-Service Remote Diagnostics

Optional remote service monitoring alerts operators to problems and connects directly to technical support and field engineers to minimize downtime. Our powerful diagnostic software can see into nearly all aspects of instrument functionality, including sensors, detectors, hardware and software, to enable us to interact directly with Navios system
Navios Now – Because Every Event Matters

With the Navios, the future of flow cytometry is here today, with a proven solution for advanced cytometry and a design dedicated to clinical laboratory workflow. Learn more about how the Navios delivers more of what matters for your lab: more capability to scale up to high complexity assays, more sensitivity at low range, more reproducibility of results, more robustness of performance — and more peace of mind.

Contact your local Beckman Coulter sales representative.

www.NaviosNow.com

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*The PrepPlus II and TQ-Prep, when used to support 10-color Navios assays, are for Research Use Only. Not for diagnostic use.

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