



**CYTEK**  
TRANSCEND THE CONVENTIONAL

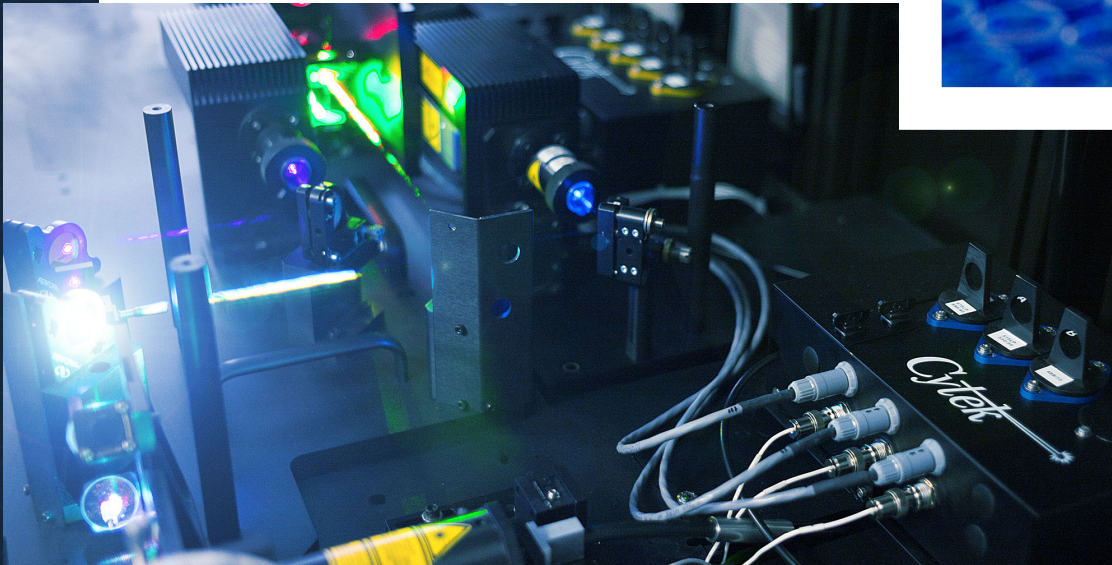
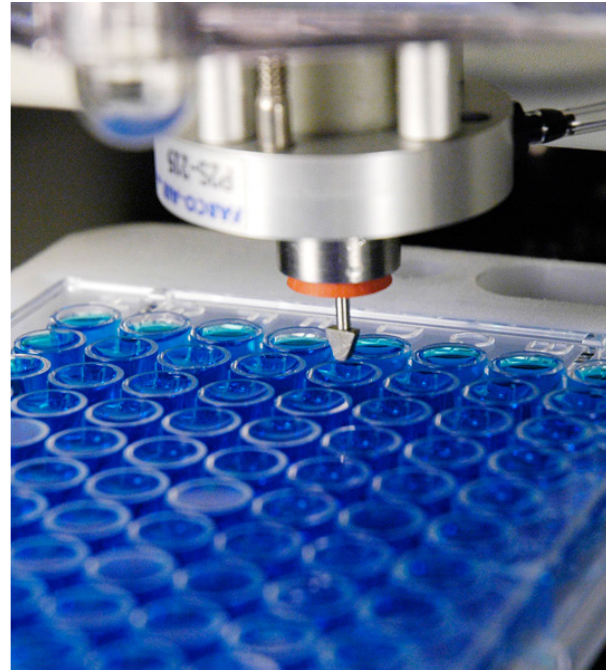


# Cytek DxP Athena™

Choose from configurations with up to 3 lasers and 13 fluorescent detectors.

# Cytek Biosciences

From multicolor systems with technology to resolve dim populations to comprehensive service plan offerings, **Cytek has the solution that aligns with your needs.**





# Meet The DxP Athena™

Built by Cytek from the ground up.

The DxP Athena™ flow cytometry system incorporates Cytek's proven DxP technology enabling the capability to resolve dim populations in a multicolor format. Multiple configurations available from 2 lasers and 6 colors up to 3 lasers and 13 colors. Each configuration offers consistent powerful performance to meet your application requirements at an affordable price.

## 13 Color Configuration

	Laser	Filter	Common Dyes (not exclusive)
Blue Laser 45mW	FSC	488/10	
	SSC	488/10	
	Channel 1	530/30	FITC, Alexa Fluor® 488
	Channel 2	575/30	PE
	Channel 3	615/25	PE-Texas Red®, PE/Dazzle™ 594
Red Laser 80mW	Channel 4	695/40	PerCP-Cy5.5
	Channel 5	780/60	PE-Cy7
	Channel 1	661/16	APC
Violet Laser 50mW	Channel 2	710/50	Alexa Fluor® 700, APC-Cy5.5
	Channel 3	780/60	APC-Cy7, APC-H7
	Channel 1	450/50	Brilliant Violet™ 421, Pacific Blue™
	Channel 2	525/50	Brilliant Violet™ 510
	Channel 3	615/25	Brilliant Violet™ 605, eFluor® 605NC
	Channel 4	710/50	Brilliant Violet™ 711
	Channel 5	780/60	Brilliant Violet™ 785

# Flexibility

Easily change filters to meet your specific application requirements.

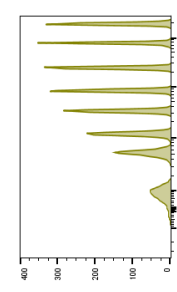
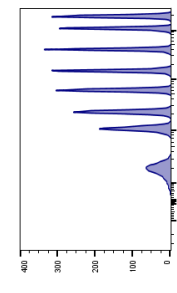
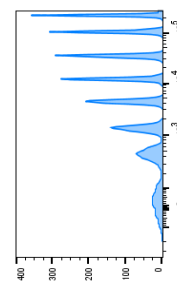
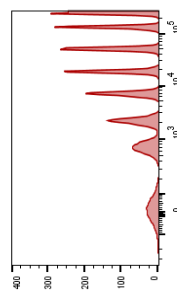
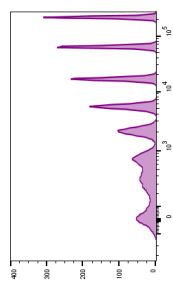
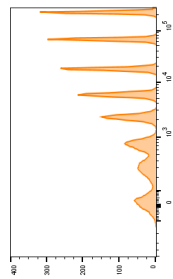
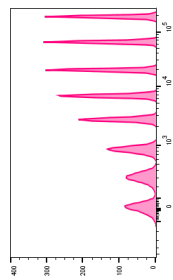
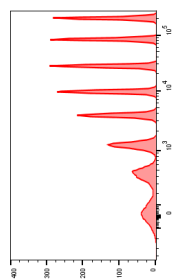
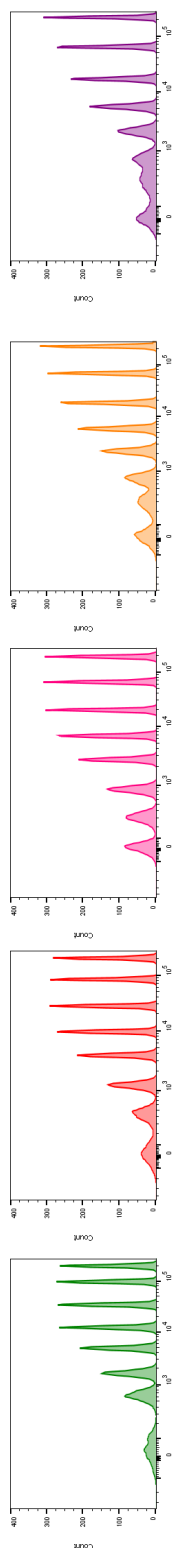


# DxP Athena Configurations

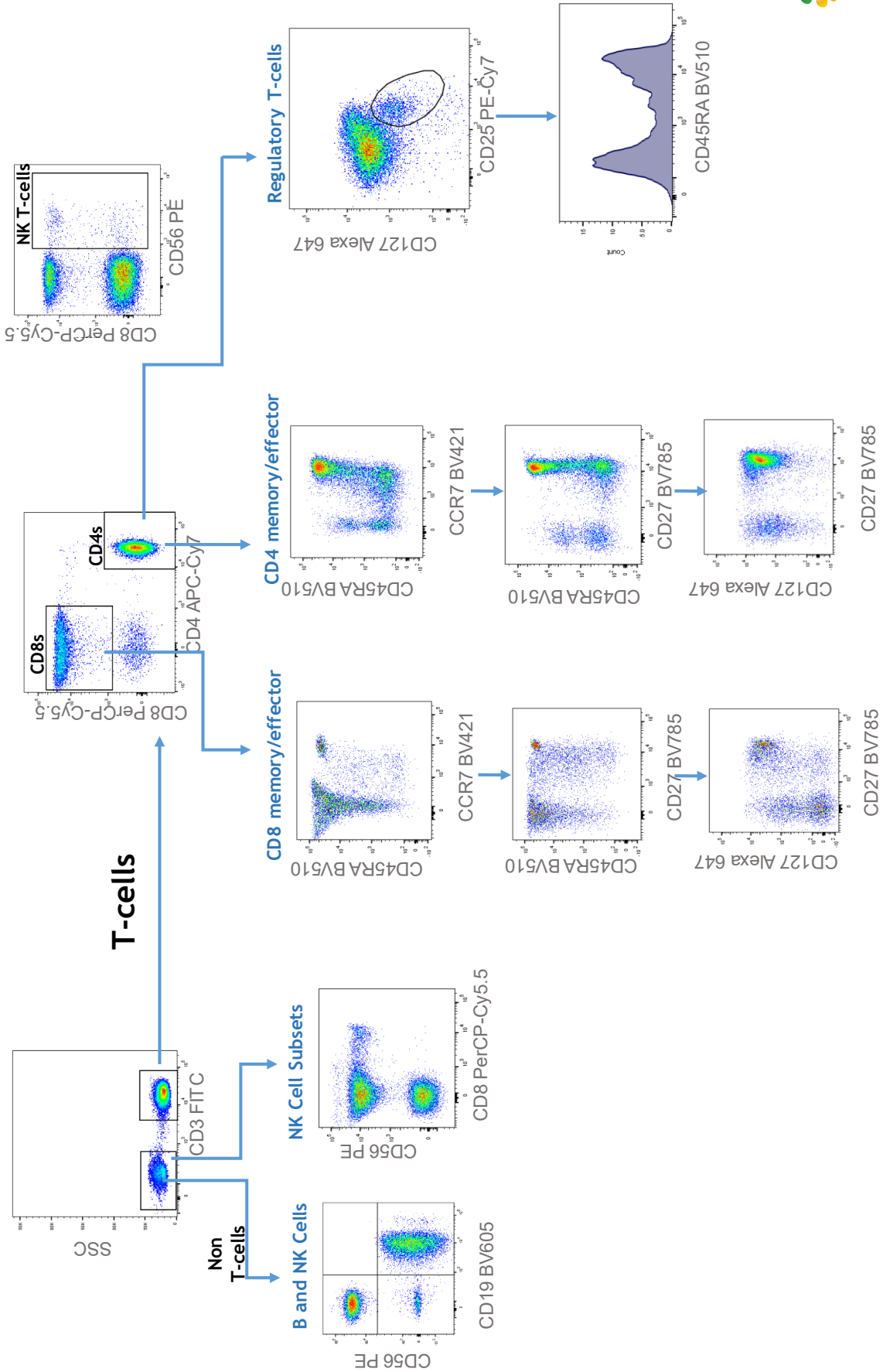
## Upgrade from 6-color to 13-color

Blue/Red 6-color	8-color	Blue/Red/Violet 10-color	Blue/Red/Violet 13-color
LASER	LASER	LASER	LASER
488 nm	407 nm	407 nm	407 nm
640 nm	488 nm	488 nm	488 nm
	640 nm	640 nm	640 nm
FITC, Alexa Fluor® 488 PE PerCP-Cy5.5 PE-Cy7 APC APC-Cy7, APC-H7	Brilliant Violet™ 421, Pacific Blue™ Brilliant Violet™ 510 FITC, Alexa Fluor® 488 PE PerCP-Cy5.5 PE-Cy7 APC APC-Cy7, APC-H7	Brilliant Violet™ 421, Pacific Blue™ Brilliant Violet™ 510 Brilliant Violet™ 605, eFluor® 605NC Brilliant Violet™ 785 FITC, Alexa Fluor® 488 PE PerCP-Cy5.5 PE-Cy7 APC APC-Cy7, APC-H7	Brilliant Violet™ 421, Pacific Blue™ Brilliant Violet™ 510 Brilliant Violet™ 605, eFluor® 605NC Brilliant Violet™ 711 Brilliant Violet™ 785 FITC, Alexa Fluor® 488 PE PE-Texas Red®, PE/Dazzle™ 594 PerCP-Cy5.5 PE-Cy7 APC Alexa Fluor® 700, APC-Cy5.5 APC-Cy7, APC-H7

## 8 Peak Beads



# 10 Color Assay



# Benefits

Cytek provides compact and affordable instruments with multiplexing capability that streamline workflows and deliver a high level of biological clarity for a majority of applications.

## RESOLUTION OF DIM POPULATIONS

Incorporates DxP Technology with efficient photomultiplier tubes (PMT) enabling high sensitivity and resolution.

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## BUILT-IN MAINTENANCE CAPABILITY

Automated monthly clean bleach cycle minimizes downtime, streamlines maintenance, and encourages compliance.

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## FUTURE-PROOFING

Upgradeable to 3 lasers and 13 colors. An optional 96-Well Automated Micro-Sampler(AMS) is available.

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## SMALL FOOTPRINT

55 x 52.4 x 57.8 cm  
(21.7 x 20.6 x 22.8 in)

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## REPRODUCIBLE RESULTS

QbSure™ software characterizes the detectors and ensures optimal daily instrument performance.

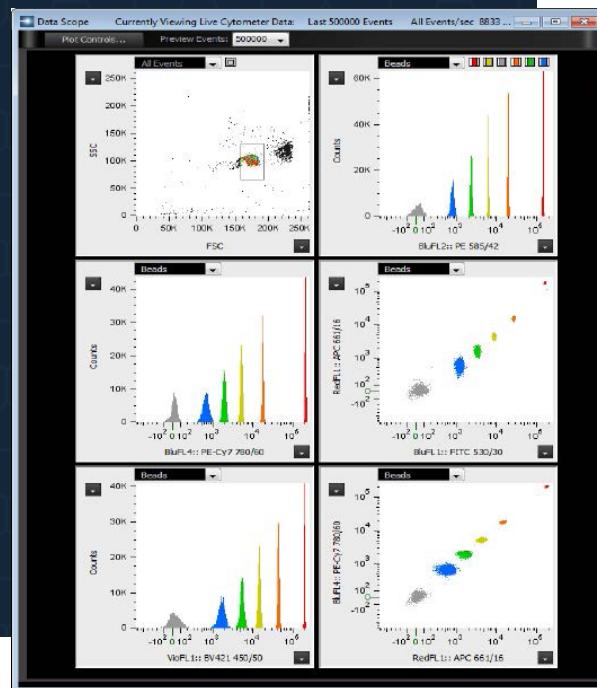
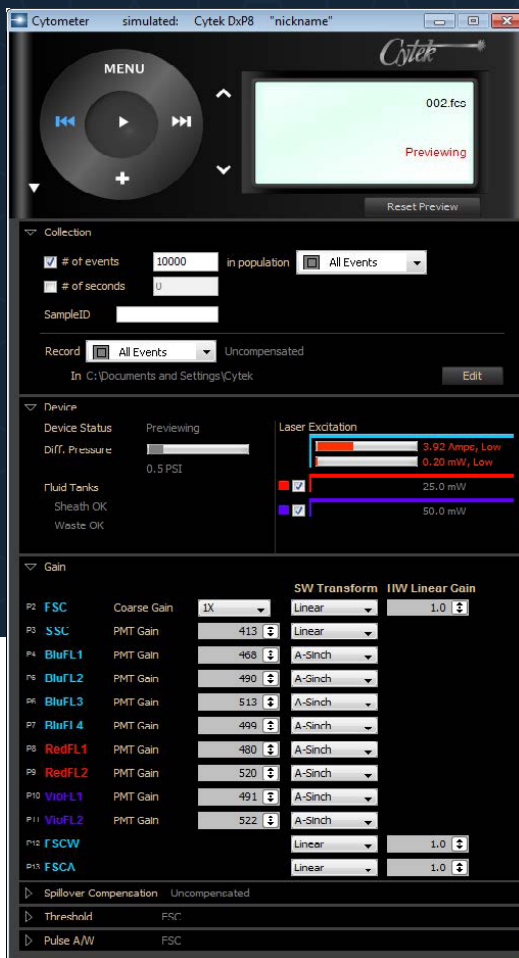
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## REFERENCES

DxP Athena™ incorporates the same DxP Technology used in other Cytek upgraded platforms that are referenced in over 100 publications.



# Cytek's Exclusive FlowJo™ Collector's Edition Software



Driving the powerful DxP technology is Cytek's Exclusive FlowJo™ Collector's Edition Software. With this intuitive software you enjoy high-speed data acquisition along with the tools required to optimize setup for a wide range of applications.

Learn more about FlowJo™ Collector's Edition software at [www.cytekbio.com](http://www.cytekbio.com)

# QbSure™ Software

## Ensures optimal daily performance.

By using Cytek's validation beads and our innovative QbSure® performance tracking software, you can feel confident that your cytometer is performing consistently.

### The Only QC Tool That Provides Resolution Information

Parameter Evaluated	Metric	QbSure®	Competitor's QC Solution	8-Peak Beads
Laser alignment	%rCV	✓	✓	✓
Detector efficiency	Q	✓	✓	
Optical noise	b	✓	✓	
Resolution limit	R	✓		

## Options

### 96-Well Auto-sampling

Cytek's automatic micro-sampler can be mounted directly under the sample injection tube reducing dead volume and increasing throughput.

### Auto-mode

Full 96-well plate in 40 minutes (15 sec. acquisition/well and 10 sec. wash/well) less than 1% carryover.

### High throughput mode

Full 96-well plate in 15 minutes. (9 sec. acquisition/well) less than 3% carryover.



# DxP Athena™

## Technical Specifications

### Excitation Optics

#### Optical Platform

Allows up to 3 lasers. Fixed optical assembly with three spatially separated laser beams.

#### Lasers

407nm: 50mW  
488nm: 45mW  
637nm: 80mW

#### Beam Geometry

Prismatic expander and achromatic spherical lens.

#### Optical Efficiency

Power loss at flow cell:  
<30% of specified laser power.

### Emission Optics

#### Optical Coupling

Fused silica cuvette coupled to emission lens by refractive index matching optical gel for optimum collection efficiency.

#### Background Rejection

Obscuration blade and slit for minimizing unwanted laser radiation at the detector.

#### Forward Scatter Detector

##### And Filter

High-performance solid-state silicon detector with 488nm bandpass filter.

#### Side Scatter Detector

Photomultiplier and 488nm bandpass filter.

#### Photomultiplier Tubes

High efficiency Tri-alkali Photomultipliers

#### Fluorescence Detectors And Filters

DxP Athena 10-color configuration shown.

BluFL1: 530/30 (FITC)

BluFL2: 575/30 (PE)

BluFL3: 695/40 (PerCP-Cy5.5)

BluFL4: 780/60 (PE-Cy7)

RedFL1: 661/16 (APC)

RedFL2: 780/60 (APC-Cy7)

VioFL1: 450/50 (Brilliant Violet™ 421)

VioFL2: 525/50 (Brilliant Violet™ 510)

VioFL3: 615/25 (Brilliant Violet™ 605)

VioFL4: 780/60 (Brilliant Violet™ 785)

### Fluidics

#### Sample Flow Rates

Front panel keypad provides four modes:

Run, Standby, Prime and Clean

Three preset flow rates:

Lo: 12 µL/min

Med: 35 µL/min

Hi: 60 µL/min

#### Standard Fluidic Reservoirs

One 4-L sheath container and one 4-L waste container provided.

# DxP Technology Performance

## Fluorescence Sensitivity

Molecules of Equivalent Fluorescence (MEFL),  
using Q&b Method\*

	Min. Q	Max. b	**Typical R Value
FITC	0.007	1200	382
PE	0.05	1000	300
PerCP-Cy5.5	0.003	600	336
PE-CY7	0.001	2000	758
APC	0.015	500	161
APC-CY7	0.005	7500	1161
BV421	0.01	3750	818
BV510	0.01	1500	1261

\*Q measures optical efficiency, b measures background, and R (resolution limit), measures the number of dye molecules required to resolve a dim population from noise.

\*\*Average R value across 4 systems. MEFL required to be 2 standard deviations above noise. Assumes no compensation applied.

### Fluorescence Sensitivity Threshold

FITC: 50 molecules of equivalent soluble fluorochrome (MEFLFITC).

PE: 30 molecules of equivalent soluble fluorochrome (MEFL-PE).

FITC and PE measurements performed using SPHERO Rainbow Calibration Particle (RCP-30-5A).

### Fluorescence Linearity

Delivers doublet/singlet ratio of 1.95–2.05 for CEN stained with Propidium Iodide excited with the 488nm laser.

### Forward and Side Scatter Sensitivity

Enables separation of fixed platelets from noise.

### Forward and Side Scatter Resolution

Performance is optimized for resolving lymphocytes, monocytes, and granulocytes.

### Side Scatter Resolution

Capable to resolve 0.5µm beads from the noise.

### Fluorescence Resolution

18 bit 5 log decades.

### Data Acquisition Rate

7,500 events/s with beads.

## Data Management



### FlowJo™ Collector's Edition 7.5.110 or later

Our acquisition interface can be adapted to any application. Real time spillover matrix for viewing live compensated data. Acquisition templates include hardware, gate, spillover, layout and statistical settings. Save workspaces and use during multiple acquisition sessions.

### Cytek AMS Software Version 1.0.4

#### Fast and Easy Setup

Experiment plate mapping, including stain names can be setup on stand alone computer and saved as a template for future use.

#### Well ID Stamping

Well ID in the file name confirms data file to Well ID relationship.

#### Block Inspector

Change the FlowJo™ Collector's Edition acquisition settings on a per block basis.

## Workstation

### Operating System

Windows® 7 32-Bit Professional

### Processor

Intel Quad Core processor, 3.0 GHz

### RAM

4GB (1 x 4GB), 16000 MHz DDR3

### Hard Drive

500GB SATA 3.0Gb/s

### DVD Drive

16x DVD+/- RW, SATA

### Video Processor

HD Graphics GMA 4600

### Monitor

24" LCD

## Installation Requirements

Dimensions (W x D x H)

### Sensor module (without AMS)

55 x 52.4 x 57.8 cm

### Weight

45.4 kg (100 lbs)

### Computer

3.5 x 18.3 x 17.9 cm (1.4 x 7.2 x 7.1 in)

### Recommended workspace

(W x D x H)  
180 x 91 x 132 cm  
(71 x 36 x 52 in)

## Room Requirements

### Power

100-240V, 50/60 Hz, 2A max

### Heat dissipation

450 watts with all solid-state lasers

### Temperature

16–29°C (60–85°F)

### Humidity

10% to 90% relative non-condensing

### Air Filtering

No excessive dust and smoke

### Lighting

Optics and detectors shielded from room.

## Regulatory Status

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

# Cytek DxP Athena™

Start accelerating your research.



If you would like more information,  
email us at: [sales@cytekbio.com](mailto:sales@cytekbio.com)  
or call 1-877-92CYTEK