



Helping all people
live healthy lives

BD FACSArray™ Bioanalyzer

Flexibility for high-throughput cellular and multiplex bead assays

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Introduction

Unlimited Possibilities

The BD FACSArray™ bioanalyzer from BD Biosciences, the innovation leader in flow cytometry instrumentation, is for fast and sensitive high-content measurements of cells and proteins in cell biology, immunology, and proteomics.

This compact flow cytometer rapidly detects and quantifies concentrations of secreted proteins, proteins in cell lysates, and cell-associated proteins using small sample volumes directly from a 96-well microtiter plate through multiplexed BD™ Cytometric Bead Arrays (CBAs). Furthermore, it supports your search for answers in cellular analysis of apoptosis, cytokine and chemokine profiling, and phosphorylation of key signal transduction proteins. Our bioanalyzer can also be used to assess hybridomas, cell viability, proliferation, and immunotoxicology. For your lab, this means unlimited possibilities for both cellular applications and multiplex bead assays.

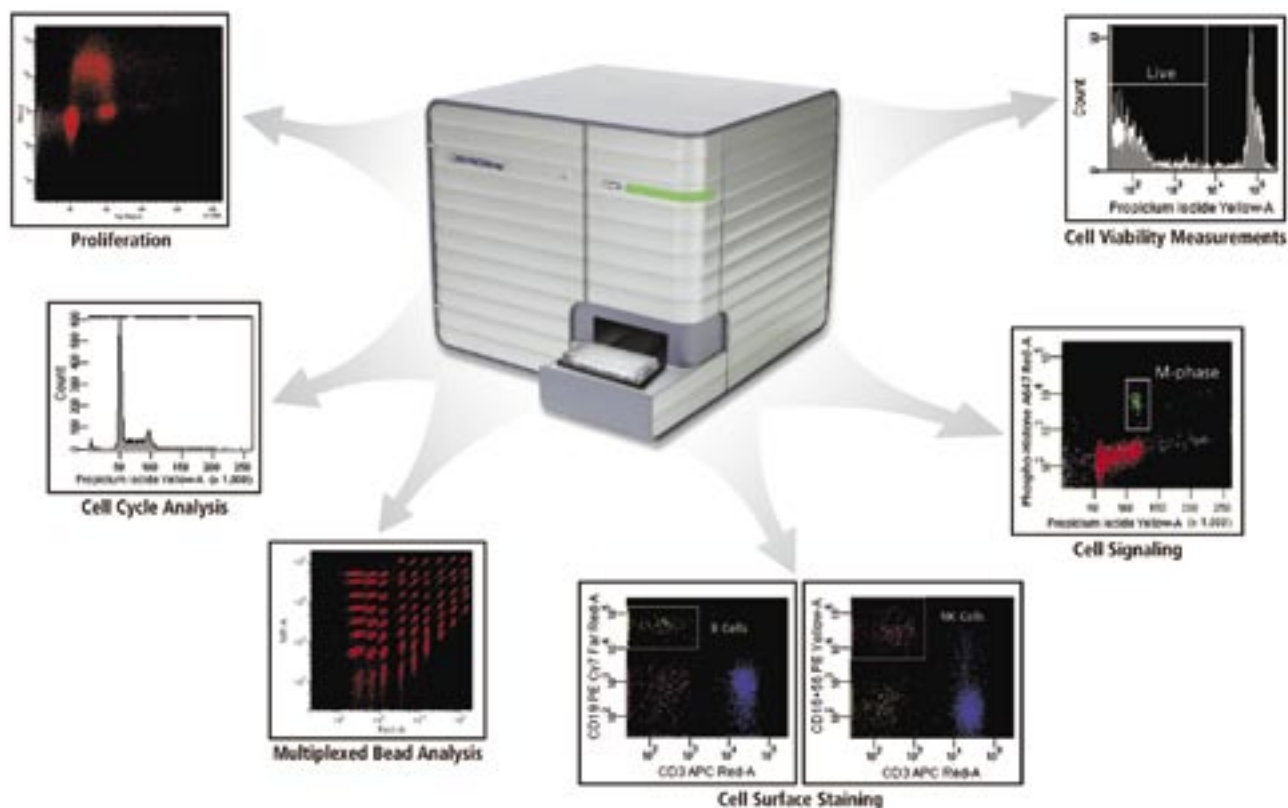
The BD Biosciences commitment to application development is one of our strongest distinctions in supporting customers. Carefully optimized applications and availability of over one thousand reagents support the BD FACSArray platform.

A fully integrated system, the BD FACSArray bioanalyzer is composed of an analyzer with an automated microtiter plate sampler, a sensitive optical detection subsystem, a computer workstation, intuitive software, and validated applications. It is easy to use and requires minimal training, so your research shows immediate success.

BD FACSArray Bioanalyzer System

- Fast microtiter plate sampler
- Two-laser system
- Sensitive fluorescence detection
- Simultaneous collection of up to six parameters per particle (four fluorescence and two scatter)
- Intuitive software
- State-of-the-art digital signal processing allows up to 15,000 events per second
- BD Biosciences reagents and applications

Application Flexibility



BD FACSAArray™ Bioanalyzer System

Maximize Your Productivity

The BD FACSAArray™ bioanalyzer features an automated microtiter plate sampler that quickly acquires from 96-well plates. The plate sampler is controlled by flexible and easy-to-use software, for immediate adoption of the bioanalyzer in your laboratory. The system software controls the instrument and sample acquisition, and is powerful enough to support batch analysis across multiple plates. Its experiment wizard contains ready-to-use acquisition and analysis templates for key applications, and lets you rapidly define and store your own templates. One-click instrument maintenance protocols make it easy to keep the bioanalyzer performing optimally.

BD Biosciences assays for the BD FACSAArray are developed with consideration for simplicity and small sample volume, while taking advantage of the analyzer's multiparameter detection capability that means many answers per sample.

System speed, novel software tools, and streamlined assay formats accelerate your total productivity and interpretation of high-content biological data for the answers you need quickly.

Discover the Flexibility

The BD FACSAArray bioanalyzer's optical detection system is ideal for multicolor flow cytometry experiments. The optics are capable of collecting up to four fluorescent colors from each sample, as well as forward and side scatter light. Correlated forward and side scatter signals are crucial for differentiating events of interest from interfering debris. With its multiparameter capabilities, you can resolve various populations within a single cellular or bead sample.

For multiplex bead applications, antibody-labeled fluorescent beads capture and quantify secreted proteins or proteins in cell lysates using BD™ CBA technology. With the newly released BD™ CBA Flex Set assays, you tailor the bead array to your specific experiment. For cellular applications, antibodies conjugated to fluorophores bind specifically to cell surface or intracellular proteins. This technique can be applied to resting, immune-challenged, or drug-exposed samples to differentiate cells and to define their biological responses. Additionally, dyes can be used to determine cell viability. BD Biosciences applications cover the entire range of species including studies of human, murine, dog, and non-human primate samples.

Give Your Performance a Boost

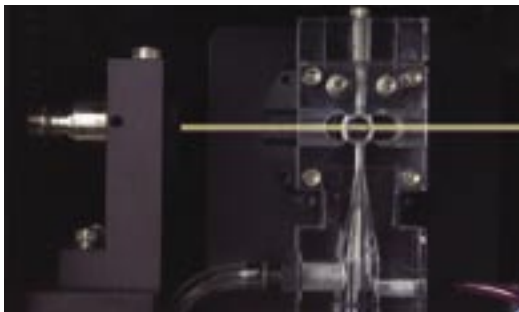
BD Biosciences hardware, software, and applications—a synergized system of leading quality—improves your performance.

BD FACSArry™ System—Technical Overview



Microtiter Plate Sampler

Automated sampler technology allows for fast acquisition of biological samples directly from a 96-well microtiter plate. Throughput for acquisition of a 96-well plate is estimated at 35 minutes or less for most multiplex bead and cellular assays. At its heart is a syringe pump that delivers the content of each well to the optical detection system. Prior to sampling, well contents are automatically suspended to ensure a homogenous presentation of the bead or cell suspension to the optical detection unit. You define sample volume and the number of probe washes, and freely arrange samples on each plate. The sampler is compatible with a variety of 96-well plate formats to match your research requirements.



Signal Detection

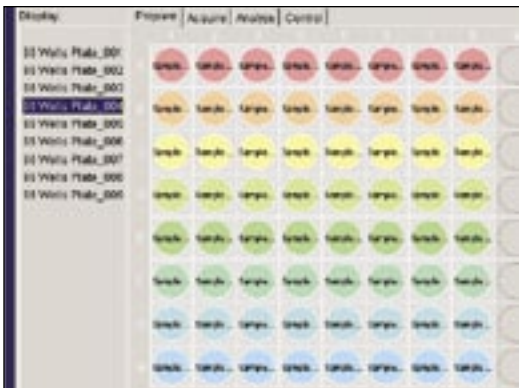
The BD FACSArry™ bioanalyzer is equipped with a green (532 nm) and a red (635 nm) laser to deliver up to six-parameter detection (four fluorescent and two scatter) at one time. Fluorescent-labeled particles are transported in a fluid stream from each well to a flow-through optical cuvette where they intercept two spatially separated laser beams. The fluorescent molecules are subsequently energized and their signals, along with particle-scattered light, are detected, then processed, by BD FACSArry electronics.

Two fluorescence parameters from the 532 nm laser	Two fluorescence parameters from the 635 nm laser
<ul style="list-style-type: none">• Yellow parameter; 564 – 606 nm for PE or PI• Far Red parameter; >685 nm for PE-Cy7 or PerCP-Cy5.5	<ul style="list-style-type: none">• Red parameter; 653 – 669 nm for APC or Alexa Fluor® 647• Near Infrared (NIR) parameter; 750 – 810 nm for APC-Cy7



Digital Signal Processing

The BD FACSArry bioanalyzer is equipped with state-of-the-art digital electronics, which are faster, more flexible, and more accurate than analog processing in conventional instruments. The bioanalyzer can run up to 15,000 events per second while providing real-time data.



Software

BD FACSArry software controls instrument setup and sample acquisition. It also supports batch analysis with customizable automated gating tools. Data handling options include data export into other BD analysis, third-party analysis, or database software applications. BD FACSArry software is compatible with FCAP Array™ software to perform quantitative analysis of data from BD™ CBA Flex Sets and BD™ CBA Kits. In addition, FCAP Array software enables you to design and set up BD CBA Flex Set experiments and import them directly to the BD FACSArry bioanalyzer, creating a streamlined workflow.

Applications and Reagents

Cellular and Multiplex Bead Assays

The BD FACSAArray™ bioanalyzer is a flexible system. Both cellular and multiplex bead applications can be optimally acquired and analyzed for in-depth analysis of biological properties and functions.

The following sections highlight just a few of the applications supported by a broad range of products from one source, BD Biosciences.

Refer to the BD FACSAArray application notes* and the BD™ CBA Flex Set brochure for additional information on how to perform a specific assay type on the BD FACSAArray bioanalyzer.

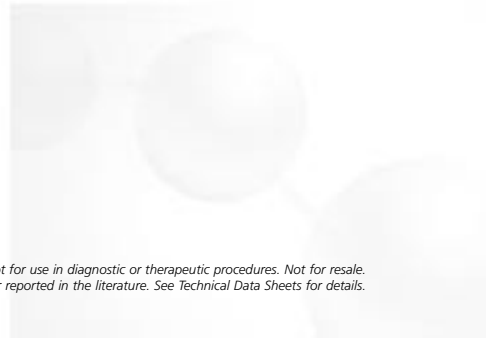
BD™ CBA Flex Sets—The Most Flexible Multiplex Bead Array System Available

BD Biosciences has always provided the most reliable and complete multiplex bead array system. Now we've taken the performance you trust and the ease-of-use you rely on and made an ultimately flexible system. We recognized your need for a flexible assay system, the value of your precious samples, and the importance of data reproducibility, and we've engineered the new BD CBA Flex Set system to maximize all of these factors.

Visit bdbiosciences.com/flexsets for more information

With the BD CBA Flex Set System You Get:

- Reagents that are the easiest and most efficient to multiplex
- A multiplex system that requires no assay formulation regardless of plex size
- Quantitative results from a single, small-volume sample
- Superior performance requiring less total time and less hands-on time than competitive bead-based immunoassays
- Results in less time than competitive assays
- Simple assay products yielding superior data
- Automated sample acquisition and increased throughput with the plate-based BD FACSAArray bioanalyzer
- A complete system backed by the service and reliability you expect from BD Biosciences



*BD FACSAArray applications can be found at bdbiosciences.com/bdfacsarray_applications

The BD™ Cytometric Bead Array Flex Set System

Flow cytometry is an analytical tool for rapidly discriminating different particles on the basis of size and color. The BD™ CBA employs a series of particles with discrete fluorescence intensities to simultaneously detect multiple soluble analytes from a single serum, plasma, lysates, or tissue culture supernatant sample. The BD CBA, with the BD FACSArray™ bioanalyzer, creates a powerful multiple analyte (multiplex) assay system. The BD CBA system uses the superior fluorescence detection accomplished by flow cytometry to measure soluble analytes with a particle-based immunoassay. The efficient capturing of analytes via suspended particles coated with distinct capture antibodies enable the BD CBA to use fewer sample dilutions to determine analyte concentration in substantially less time (compared to conventional ELISA).

Specific capture beads are mixed (see **Figure 1**) with recombinant protein standards or test samples, and then incubated with phycoerythrin (PE)-conjugated detection antibodies to form sandwich complexes. Following acquisition of sample data using the flow cytometer, the sample results are generated using the new FCAP Array™ software.

The new BD CBA Flex Set system provides an open and configurable menu of bead-based reagents designed to be the easiest method of creating multiplex assays. With our proprietary conjugation chemistry, pair optimization strategies, and direct PE detection reagents, you can be assured of consistent and superior assay performance within complex biological samples.

Each antibody pair we develop is evaluated for dynamic range, sensitivity, and parallel titration to native biological samples. We formulated the assay diluent and wash buffers for each assay type to reduce potentially detrimental effects on assay performance when using samples containing serum and

plasma. By avoiding a streptavidin-biotin-PE detection method employed by other assays, our direct PE detection reagents minimize the risk of increased background caused by endogenous biotin in serum and lysate samples. Thus, BD CBA Flex Sets provide a reliable and flexible method for quantitative detection of multiple analytes in a single serum, plasma, tissue culture supernatant, or cell lysate sample.

For additional resources including instrument setup templates, visit bdbiosciences.com/flexsets

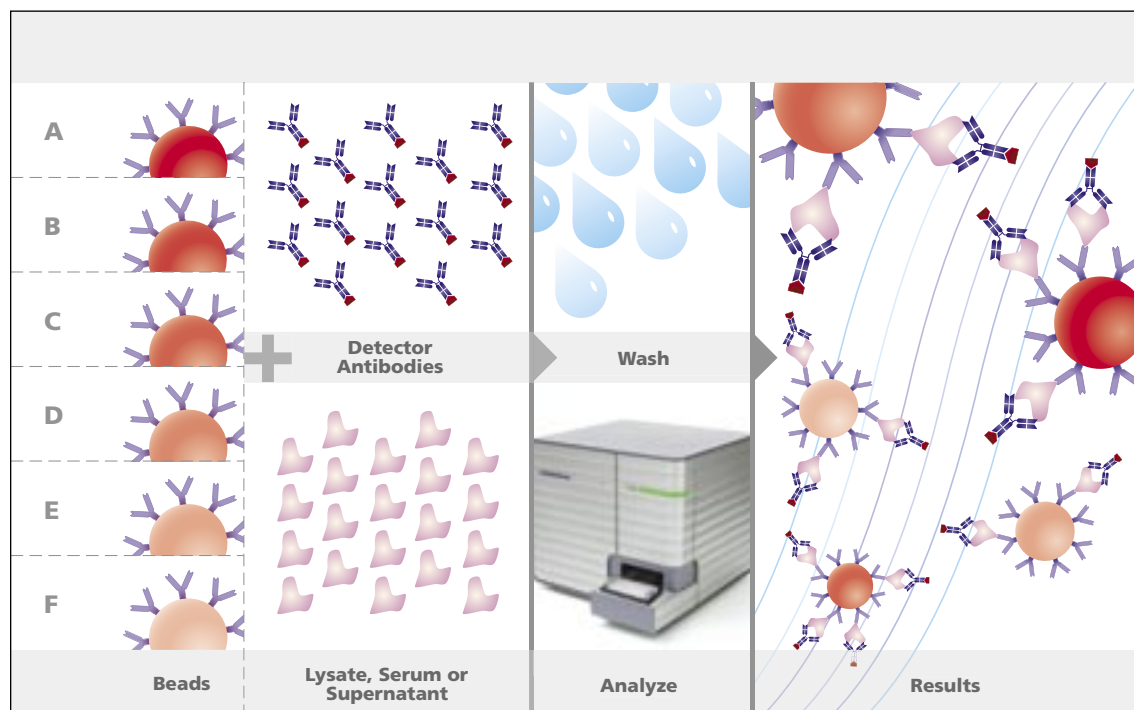
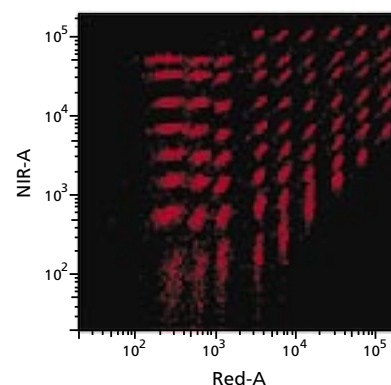


Figure 1. BD CBA Flex Set assay protocol schematic. Only a small representative sample of the available beads is shown.

Customize Your BD™ CBA Flex Assay in a Few Easy Steps

1) Choose from a menu of 100-test size Human*, Mouse, Rat, and Cell Signaling BD™ CBA Flex Set Assays

Each BD™ CBA Flex Set comes with antibody-conjugated capture beads, PE-conjugated detection reagents, and one or two standards. The standards are provided as convenient unit-dose pellets, which can be easily combined with any number of additional pelletized standards as you build larger and larger multiplexes.

** Please see technical data sheets for non-human primate reactivity information.*



2) Choose a 100- or 500-test size BD CBA Flex Set Master Buffer Kit

Each BD CBA Flex Set Master Buffer Kit contains all the assay reagents and instrument setup beads necessary for 100 or 500 tests of any size multiplex configured from compatible BD CBA Flex Sets. Whether you are running a single-plex, a 10-plex, or larger assay, your buffer reagents are optimized to perform with your customized mixture and yield the correct number of tests.



3) Use the NEW FCAP Array™ multiplex analysis software*

Using the intuitive, wizard-driven FCAP Array™ software, you can design your BD CBA Flex Set assay at your workstation. Simply create a new template on demand, or quickly recall templates saved from previous experiments. You can download a complete list of BD CBA Flex Sets and their bead position identification labels (eg, A1, A2 ...) from bdbiosciences.com/flexset. The list can be easily uploaded into the FCAP Array software or you can add new bead positions on demand manually.

** preinstalled on all new BD FACSAarray bioanalyzers. This software can also be installed on other workstations.*



4) Acquire samples on a BD FACSAarray™ bioanalyzer*, then analyze your data using FCAP Array software

BD CBA Flex Set assays are compatible with BD FACSAarray™ because of the software's ability to distinguish the fluorescent emission of beads in the Red and NIR channels. Assay throughput can be optimized by using the plate-based BD FACSAarray bioanalyzer. Simply prepare your samples and standards in a 96-well filter-bottom plate, launch your previously designed FCAP Array template, load your plate, and experience truly hands-free sample acquisition.

** assays are also compatible with other fixed alignment dual-laser flow cytometers with either 488/635 or 532/635 wavelength lasers.*



Instrument setup information provided in the Master Buffer Kit instruction manuals.

BD™ CBA Flex Sets—Ideal for Multiplex Quantitation of Phospho-Proteins

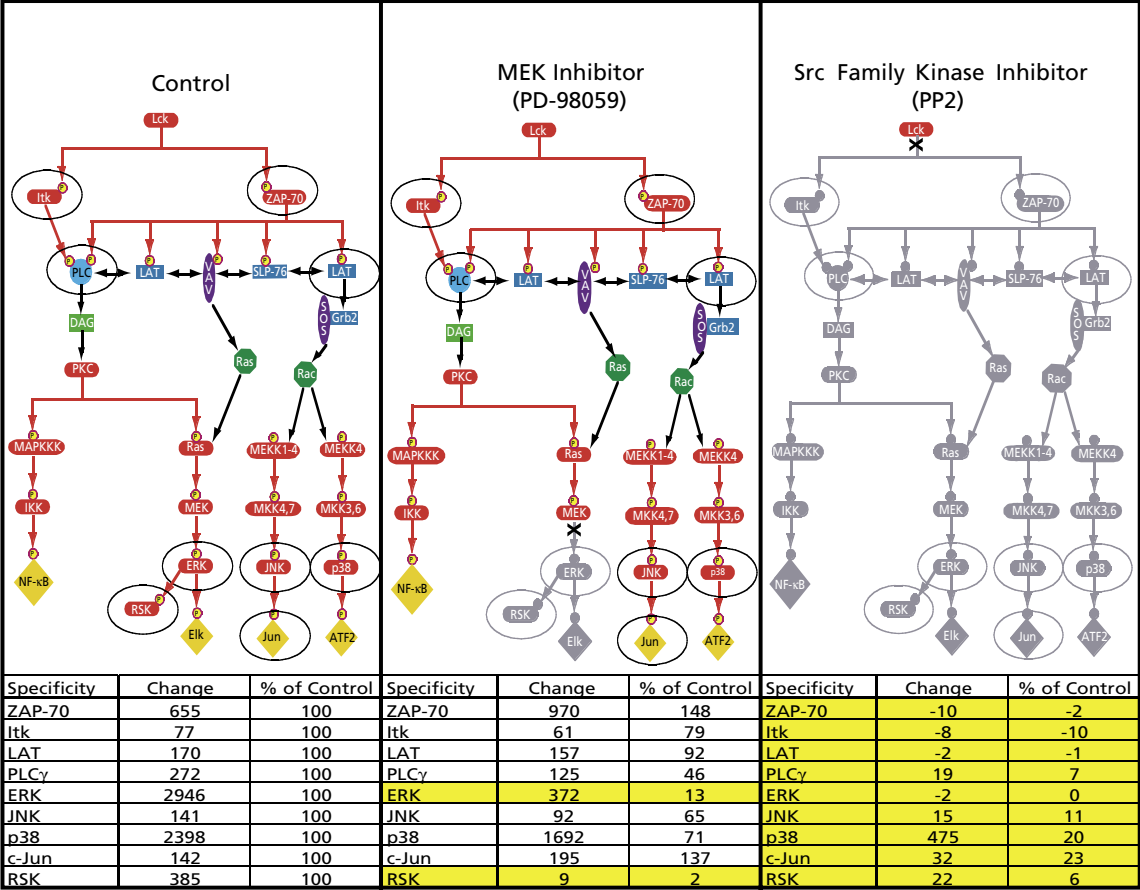


Figure 2. Effect of inhibitors on T cell signaling. Jurkat cells were incubated with either buffer, 200 μM PD-98059 (MEK inhibitor), or 10 μM PP2 (Src family tyrosine kinase inhibitor) for 20 minutes before being activated with anti-CD3/CD28 for 2 minutes. In the left panel, a T cell signaling pathway is shown. The 9 phospho-specificities that were tested simultaneously using BD™ CBA Flex Set beads are circled. The table at the bottom of the panel shows the median fluorescence intensity (MFI) units for each specificity. The middle panel shows the effects of incubation with PD-98059. Since this compound inhibits MEK, only ERK and RSK should be affected. This is shown in gray on the pathway. However, although ERK and RSK are almost completely inhibited, this compound does have effects on other signaling molecules. In the right panel, Jurkat cells were incubated with PP2 which inhibits Src family kinases such as Lck. This should shut down all signaling, which is what is seen in the table.

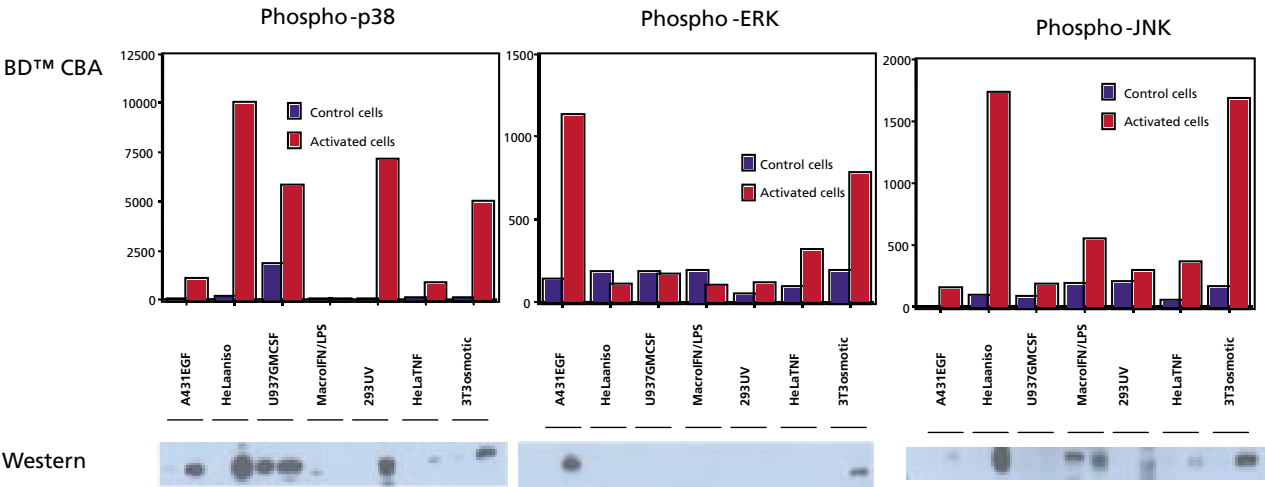


Figure 3. Activation of MAP kinases by different stimuli. Different cell types were activated with different stimuli. Cell lysates were prepared and a 3-plex BD CBA Flex Set was run to measure phosphorylated MAP kinases (ERK, JNK, p38). The bottom panel shows a Western blot of the same lysates using phospho-specific antibodies. Different stimuli have different patterns of activation and the results from the BD CBA Flex Set assays correlate well with the results from the Western blots.

BD™ CBA Flex Set Assay Performance

Time to Result

The time to complete BD™ CBA Flex Set assays was tracked and compared to competitor assays. Results include preparation of reagents for the experiment, sample acquisition, and data analysis.

Table 1. Soluble Protein Assays: Protocol Comparison and Time to Result

	BD™ CBA FLEX SETS	COMPETITOR A	COMPETITOR B	COMPETITOR C
No. Washes	0	9	9	11
No. Aspirations	1	12	13	11
No. Incubations	2/1*	3	3	3
Time to Result	4-5 hrs	10 hrs	10 hrs	4 hrs

* 2 for Human assays and 1 for Mouse assays

Table 2. Cell Signaling Assays: Protocol Comparison and Time to Result

	BD™ CBA FLEX SETS	COMPETITOR A	COMPETITOR B	COMPETITOR C
No. Washes	0	n/a	9	11
No. Aspirations	1	n/a	13	11
No. Incubations	1	n/a	3	3
Time to Result	6 hrs	n/a	10 hrs	19-22 hrs

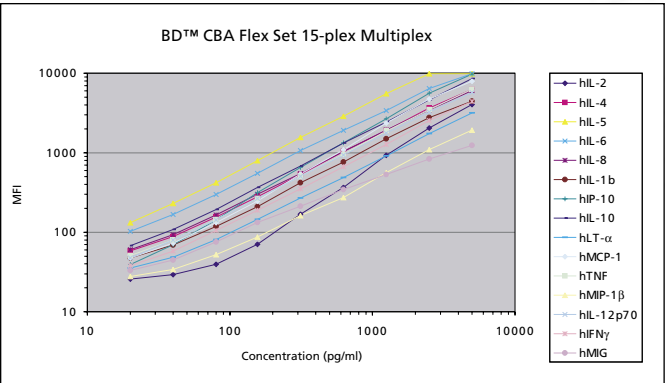


Figure 4. Standard curves for a 15-plex BD CBA Flex Set.

Cellular Assays

In addition to bead-based assays, the BD FACSArray™ bioanalyzer allows for a variety of cellular applications through its flexible optical design. It lets you acquire cells labeled with up to four fluorescent dyes or fluorochromes for investigations of specific cellular properties and components.

This platform is compatible with a variety of dyes used for viability testing, including propidium iodide, 7-AAD, and TO-PRO-3 dyes.

The BD FACSArray system software provides the ability to automatically compensate multicolor samples allowing for quick and easy acquisition of complex multicolor experiments.

We recommend the following fluorochrome combinations for four-color surface immunophenotyping:

PE/PE-Cy7/APC/APC-Cy7
PE/PE-Cy7/Alexa-Fluor® 647/APC-Cy7
PE/PerCP-Cy5.5/APC/APC-Cy7

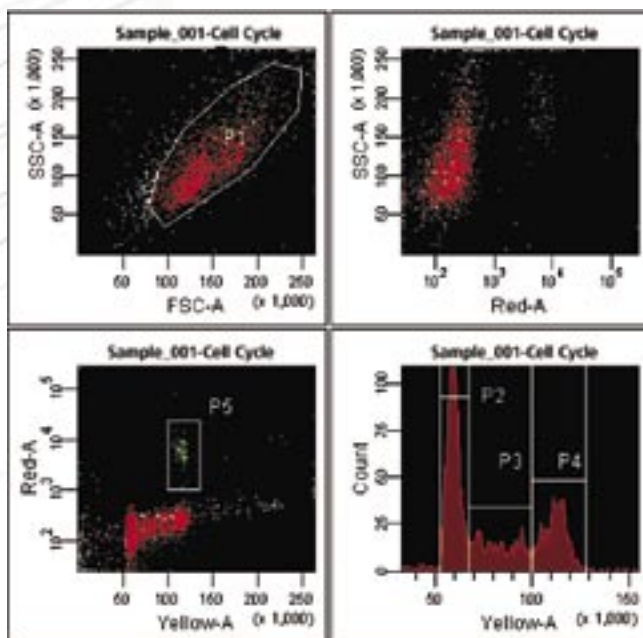
For two-color surface immunophenotyping, we recommend PE/APC, an ideal combination for optimal signal intensity and absence of optical spillover.

Visit the BD Biosciences catalog or website, bdbiosciences.com, for a complete list of PE, PerCP-Cy5.5, APC, APC-Cy7, and Alexa Fluor® 647 single-color reagents.

Key Cellular Applications

You can analyze a variety of cellular applications with the BD FACSArray bioanalyzer. We have validated three key applications to date: cell-cycle, apoptosis, and proliferation. We will continue to investigate and provide application support for new and emerging applications.

Cell-Cycle Analysis

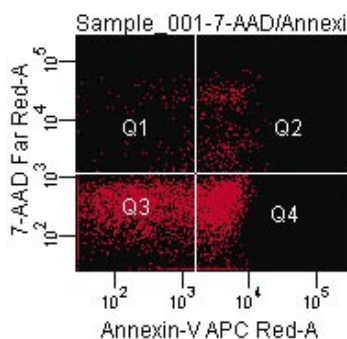


Refer to the *Cell-Cycle Analysis Using the BD FACSArray Bioanalyzer* application note*, in which we describe a method for using the bioanalyzer to rapidly analyze cells stained for cell-cycle analysis, using propidium iodide and an additional intranuclear stain for multiparameter analysis.

This procedure includes optional steps for further investigation of intracellular, intranuclear, or cell-surface proteins, along with cell-cycle analysis. Immunofluorescent staining of phosphorylated histones can be used with propidium iodide staining and flow cytometric analysis to further resolve cells within the G2 or M phases. The BD FACSArray bioanalyzer allows for an in-depth investigation of cell-cycle and various cell signaling pathways at the same time.

*For more information visit bdbiosciences.com/bdfacsarray_applications

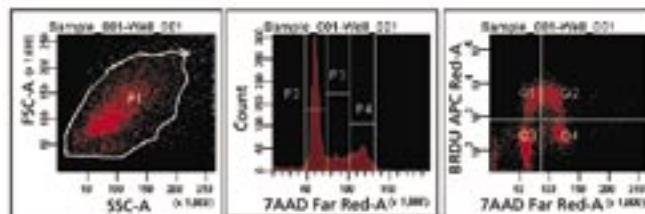
Apoptosis Analysis



The determination of apoptotic cells is an important application for understanding the complex mechanisms of cellular activity and function. In our application note, *Analysis of Apoptotic Cells Using the BD FACSArray Bioanalyzer**, we describe a method for quantitating apoptotic cells with Annexin V and the vital dye 7-AAD after apoptosis induction.

The number of techniques designed to identify, quantitate, and characterize apoptosis is growing as we learn more about the complex underlying mechanisms of the process. This application note gives a concise method for the induction of apoptosis in Jurkat cells using camptothecin, followed by staining with Annexin V and 7-AAD to simultaneously distinguish live, early apoptotic and late apoptotic/dead cells using the bioanalyzer. The investigation of cells undergoing apoptosis is extremely easy and straightforward with the BD FACSArray™ bioanalyzer.

Cell Proliferation



Using BD Biosciences reagents, we have validated another important application using the BD FACSArray bioanalyzer. The investigation of cell proliferation by high-throughput analyses of cell populations that contain various proportions of dead or dying, and resting or cycling cells is an important tool in drug discovery. BD Biosciences has developed a procedure for using its BrdU flow kits to stain cells to measure BrdU incorporation using 96-well plates, rather than the conventional staining tubes. Our application note entitled *Multicolor Flow Cytometric Analysis of S-phase (BrdU Incorporating) Cells Using the BD FACSArray Bioanalyzer** describes how the BD FACSArray cytometer and BrdU flow kit can be used to characterize the nature of proliferating cells. It gives a concise method of staining cellular DNA, BrdU incorporating cells, CD8, and IL-2 producing cells, for a comprehensive S-phase analysis using the BD FACSArray bioanalyzer.

Visit bdbiosciences.com/bdfacsarray_applications for more information about these and newly developed applications for the BD FACSArray bioanalyzer.

*For more information visit bdbiosciences.com/bdfacsarray_applications

BD FACSArry™ Applications

BD FACSArry™ Applications

APPLICATIONS	BD FACSARRAY BIOANALYZER	DEDICATED CELL ANALYZER (MANUFACTURER A)	DEDICATED BEAD ANALYZER (MANUFACTURER B)
Multiplexed Bead Analysis	•		•
Cell Analysis	•	•	
Bead-Based			
Flexible Multiplex Arrays	•		•
Custom Beads	•		•
Qualitative and Quantitative Protein Assessment	•		•
Cell Signaling	•		•
Cytokines	•		•
Serum Immunoglobulin Assessment	•		•
Apoptosis	•		
Anaphylotoxins	•		
Chemokines	•		
Immunoglobulin Isotyping	•		
Growth Factors	•		
Angiogenesis	•		
F(ab)' Antibody Detection Reagents	•		
Modularized Standards	•		
Compatible with Cell Lysates	•		
Intracellular			
Viability Assessments	•	•	
Phospholipids	•		
Cytokines	•		
Phosphorylated Protein Detection	•		
TdT Detection	•		
Cell Based			
Four-Color Immunophenotyping	•		
Intracellular Phospho protein Detection	•		
Intracellular Cytokine Analysis	•		
Enhanced Cell Cycle Analysis	•		
Platelet Evaluation	•		
Immunotoxicology Subset Analysis	•		
T-Cell Activation Measurements	•		
B-Cell Activation	•		
Monocyte Function Evaluation	•		
Basophil Activation Assessment	•		
Hybridoma Screening	•		
Fluorescent Proteins	•	•	
Cell Cycle, Proliferation, and Apoptosis			
Caspase Assays	•	•	
Annexin Binding Assays	•	•	
TUNEL Assays	•	•	
Cell Cycle Analysis	•	•	
BrdU Incorporation Assays	•	•	
Cell Analysis Reagents (vendor supplied)			
PE	976	3	75
PE-Cy7/PerCP-Cy5.5	147		
APC/Alexa Fluor® 647	313		
APC-Cy7	49		
Nucleic Acid Dyes	4	2	
Instrument			
Total Parameters	6	3	4
Instrument Configuration	Dual laser	Single laser	Dual laser
Parameters	Fluorescence (4), Scattered light (2)	Fluorescence (2), Scattered light (1)	Fluorescence (3), Scattered light (1)

Product List

Instrumentation

DESCRIPTION	CAT. NO.
BD FACSAArray Bioanalyzer	340128

BD™ Cytometric Bead Array Flex Sets

Software

DESCRIPTION	CONTENTS	FORMAT	CAT. NO.
FCAP Array Software	PC-compatible software and user's guide. Required for use with BD CBA Flex Sets. Compatible with BD CBA kits	CD	338621
BD CBA Kit Software	Mac and PC compatible software and user's guide. Compatible only with BD CBA kit format	CD	550065

Phospho-Specific and Total Signaling Proteins Supporting Reagents*

DESCRIPTION	CONTENTS	SIZE	CAT. NO.
Cell Signaling Master Buffer Kit	Buffers and setup reagents required for use with BD CBA Cell Signaling Flex Sets	Sufficient for 100 tests of any size BD CBA Flex Set	558223
Cell Signaling Master Buffer Kit	Buffers and setup reagents required for use with BD CBA Cell Signaling Flex Sets	Sufficient for 500 tests of any size BD CBA Flex Set	558224

Phospho-Specific Flex Sets*

DESCRIPTION	REACT	CONTENTS	BEAD LOCATION	SIZE	CAT. NO.
Btk (Y551)	Hu	Capture Bead and Detection Reagents plus 1 standard	D5	100 tests	558236
ERK1/2 (T202/Y204)	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	C4	100 tests	558234
Itk (Y511)	Hu, Ms	Capture Bead and Detection Reagents plus 1 standard	C6	100 tests	558230
JNK1/2 (T183/Y185)	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	B5	100 tests	558235
eNOS (S1177)	Hu	Capture Bead and Detection Reagents plus 1 standard	C7	100 tests	558239
p38/MAPKinase (T180/Y182)	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	B6	100 tests	558233
PLC-γ (Y783)	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	B7	100 tests	558228
RSK (T573)	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	D7	100 tests	558240
Stat1 (Y701)	Hu, Ms	Capture Bead and Detection Reagents plus 1 standard	C5	100 tests	558222
Syk (Y352)	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	B9	100 tests	558237
ZAP-70 (Y319)	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	B8	100 tests	558229

Total Signaling Protein Flex Sets*

DESCRIPTION	REACT	CONTENTS	BEAD LOCATION	SIZE	CAT. NO.
Stat1	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	D4	100 tests	558227
Syk	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	B9	100 tests	558238
ZAP-70	Hu, Ms, Rt	Capture Bead and Detection Reagents plus 1 standard	B8	100 tests	558232

* Total signaling protein flex sets may not be run in the same assay well as phospho-specific flex sets.

Product List

BD™ Cytometric Bead Array Flex Sets (continued)

Human Supporting Reagents

DESCRIPTION	CONTENTS	SIZE	CAT. NO.
Human Soluble Protein Master Buffer Kit	Buffers and setup reagents required for use with BD CBA Human Soluble Protein Flex Sets	Sufficient for 100 tests of any size BD CBA Flex Set	558264
Human Soluble Protein Master Buffer Kit	Buffers and setup reagents required for use with BD CBA Human Soluble Protein Flex Sets	Sufficient for 500 tests of any size BD CBA Flex Set	558265

Human Flex Sets†

DESCRIPTION	CONTENTS	BEAD LOCATION	SIZE	CAT. NO.
Angiogenin	Capture Bead and Detection Reagents plus 2 standards	C4	100 tests	558328
Eotaxin	Capture Bead and Detection Reagents plus 2 standards	C7	100 tests	558329
Fas Ligand (FASL), Soluble	Capture Bead and Detection Reagents plus 2 standards	C6	100 tests	558330
basic FGF	Capture Bead and Detection Reagents plus 2 standards	C5	100 tests	558327
G-CSF	Capture Bead and Detection Reagents plus 2 standards	C8	100 tests	558326
GM-CSF	Capture Bead and Detection Reagents plus 2 standards	C9	100 tests	558335
IFN-γ	Capture Bead and Detection Reagents plus 2 standards	E7	100 tests	558269
IL-1β	Capture Bead and Detection Reagents plus 2 standards	B4	100 tests	558279
IL-2	Capture Bead and Detection Reagents plus 2 standards	A4	100 tests	558270
IL-3	Capture Bead and Detection Reagents plus 2 standards	D5	100 tests	558355
IL-4	Capture Bead and Detection Reagents plus 2 standards	A5	100 tests	558272
IL-5	Capture Bead and Detection Reagents plus 2 standards	A6	100 tests	558278
IL-6	Capture Bead and Detection Reagents plus 2 standards	A7	100 tests	558276
IL-7	Capture Bead and Detection Reagents plus 2 standards	A8	100 tests	558334
IL-8	Capture Bead and Detection Reagents plus 2 standards	A9	100 tests	558277
IL-9	Capture Bead and Detection Reagents plus 2 standards	B6	100 tests	558333
IL-10	Capture Bead and Detection Reagents plus 2 standards	B7	100 tests	558274
IL-12p70	Capture Bead and Detection Reagents plus 2 standards	E5	100 tests	558283
IP-10	Capture Bead and Detection Reagents plus 2 standards	B5	100 tests	558280
LT-α	Capture Bead and Detection Reagents plus 2 standards	D7	100 tests	558284
MCP-1	Capture Bead and Detection Reagents plus 2 standards	D8	100 tests	558287
MIG	Capture Bead and Detection Reagents plus 2 standards	E8	100 tests	558286
MIP-1α	Capture Bead and Detection Reagents plus 2 standards	B9	100 tests	558325
MIP-1β	Capture Bead and Detection Reagents plus 2 standards	E4	100 tests	558288
RANTES	Capture Bead and Detection Reagents plus 2 standards	D4	100 tests	558324
TNF	Capture Bead and Detection Reagents plus 2 standards	D9	100 tests	558273
VEGF	Capture Bead and Detection Reagents plus 2 standards	B8	100 tests	558336

† Some specificities are reactive with Rhesus, Cynomolgus and Macaque non-human primate species

Product List

BD™ Cytometric Bead Array Flex Sets (continued)

Mouse/Rat Supporting Reagents

DESCRIPTION	CONTENTS	SIZE	CAT. NO.
Mouse/Rat Soluble Protein Master Buffer Kit	Buffers and setup reagents required for use with BD CBA Mouse/Rat Soluble Protein Flex Sets	Sufficient for 100 tests of any size BD CBA Flex Set	558266
Mouse/Rat Soluble Protein Master Buffer Kit	Buffers and setup reagents required for use with BD CBA Mouse/Rat Soluble Protein Flex Sets	Sufficient for 500 tests of any size BD CBA Flex Set	558267

Mouse Flex Sets

DESCRIPTION	CONTENTS	BEAD LOCATION	SIZE	CAT. NO.
GM-CSF	Capture Bead and Detection Reagents plus 2 standards	B9	100 tests	558347
IFN-γ	Capture Bead and Detection Reagents plus 2 standards	A4	100 tests	558296
IL-2	Capture Bead and Detection Reagents plus 2 standards	A5	100 tests	558297
IL-3	Capture Bead and Detection Reagents plus 2 standards	A8	100 tests	558346
IL-4	Capture Bead and Detection Reagents plus 2 standards	A7	100 tests	558298
IL-5	Capture Bead and Detection Reagents plus 2 standards	A6	100 tests	558302
IL-6	Capture Bead and Detection Reagents plus 2 standards	B4	100 tests	558301
IL-9	Capture Bead and Detection Reagents plus 2 standards	B5	100 tests	558348
IL-10	Capture Bead and Detection Reagents plus 2 standards	C4	100 tests	558300
IL-12p70	Capture Bead and Detection Reagents plus 2 standards	D7	100 tests	558303
IL-13	Capture Bead and Detection Reagents plus 2 standards	B8	100 tests	558349
KC	Capture Bead and Detection Reagents plus 2 standards	A9	100 tests	558340
MCP-1	Capture Bead and Detection Reagents plus 2 standards	B7	100 tests	558342
TNF	Capture Bead and Detection Reagents plus 2 standards	C8	100 tests	558299

Rat Flex Sets

DESCRIPTION	CONTENTS	BEAD LOCATION	SIZE	CAT. NO.
IFN-γ	Capture Bead and Detection Reagents plus 2 standards	A6	100 tests	558305
IL-4	Capture Bead and Detection Reagents plus 2 standards	B9	100 tests	558307
IL-6	Capture Bead and Detection Reagents plus 2 standards	A9	100 tests	558308
IL-10	Capture Bead and Detection Reagents plus 2 standards	A8	100 tests	558306
TNF	Capture Bead and Detection Reagents plus 2 standards	C8	100 tests	558309

Product List

BD™ Cytometric Bead Array Ready-to-Use Kits**

Human

DESCRIPTION	CONTENTS	SIZE	CAT. NO.
Allergy/Asthma Mediator Kit – I	IL-3, IL-4, IL-5, IL-7, IL-10, GM-CSF	Appx 80 tests (samples plus standards)	558022
Allergy/Asthma Mediator Kit – II	IL-3, IL-4, GM-CSF, G-CSF, Eotaxin	Appx 80 tests (samples plus standards)	558023
Anaphylatoxin	C4a, C3a, C5a	Appx 80 tests (samples plus standards)	552363
Angiogenesis Kit	IL-8, Basic FGF, VEGF, TNF, Angiogenin	Appx 80 tests (samples plus standards)	558014
Apoptosis Kit	Cleaved PARP, Bcl-2, Active Caspase-3	Appx 80 tests (samples plus standards)	557816
Chemokine Kit – I	IL-8, RANTES, MIG, MCP-1, IP-10	Appx 80 tests (samples plus standards)	552990
Inflammation Kit	IL-8, IL-1β, IL-6, IL-10, TNF, IL-12p70	Appx 80 tests (samples plus standards)	551811
Th1/Th2 Cytokine Kit – I	IL-2, IL-4, IL-5, IL-10, TNF, IFN-γ	Appx 80 tests (samples plus standards)	550749
Th1/Th2 Cytokine Kit – II	IL-2, IL-4, IL-6, IL-10, TNF, IFN-γ	Appx 80 tests (samples plus standards)	551809

Non-Human Primate

DESCRIPTION	CONTENTS	SIZE	CAT. NO.
Non-Human Primate Th1/Th2 Kit	IL-2, IL-4, IL-5, IL-6, TNF, IFN-γ	Appx 80 tests (samples plus standards)	557800

Mouse

DESCRIPTION	CONTENTS	SIZE	CAT. NO.
Immunoglobulin Isotyping Kit	Heavy and light chain isotypes of mouse IgG1, IgG2a, IgG2b, IgG3, IgA, IgM, IgE	100 tests	550026
Inflammation Kit	IL-6, IL-10, MCP-1, IFN-γ, TNF, IL-12p70	Appx 80 tests (samples plus standards)	552364
Th1/Th2 Cytokine Kit	IL-2, IL-4, IL-5, TNF, IFN-γ	Appx 80 tests (samples plus standards)	551287

Supporting Reagents

DESCRIPTION	CONTENTS	SIZE	CAT. NO.
Human Inflammation Cytokine Standard	IL-8, IL-1, IL-6, IL-10, TNF, IL-12p70	Lyophilized, 1 vial	552932
Human Th1/Th2 Cytokine Standard	IL-2, IL-4, IL-5, IL-6, IL-10, TNF, IFN-γ	Lyophilized, 1 vial	551810
Mouse Inflammation Cytokine Standard	IL-6, IL-10, MCP-1, IFN-γ, TNF, IL-12p70	Lyophilized, 1 vial	620280
Mouse Th1/Th2 Cytokine Standard	IL-2, IL-4, IL-5, TNF, IFN-γ	Lyophilized, 1 vial	552967

****IMPORTANT - Pre-configured Kits and Flex Sets MAY NOT be combined.**

Product List

Cellular Application Reagents

Cell-Cycle Application

DESCRIPTION	CLONE	SIZE	CAT. NO.
Propidium Iodide Staining Solution		2 ml	556463
BD Pharmingen Stain Buffer (FBS)		500 ml	554656
ModFit LT™ Software for PC			349329
Anti Histone H3 (pSer28)-Alexa Fluor® 647	HTA28	50 tests	558217

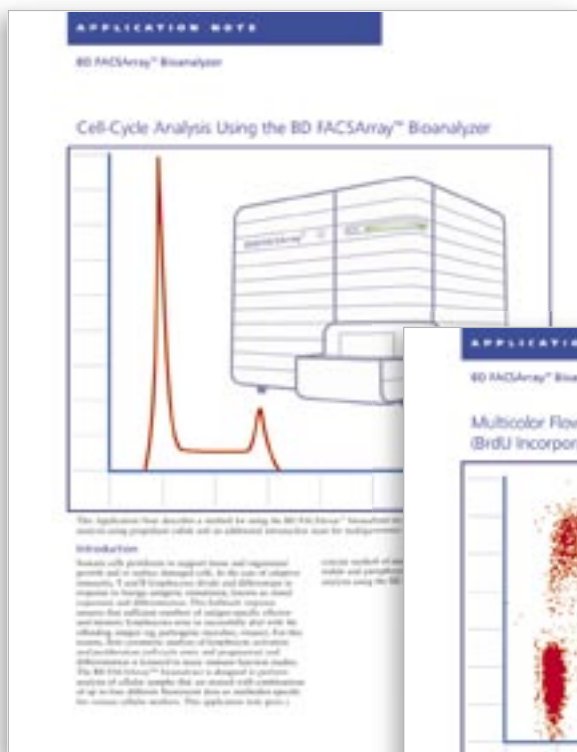
Proliferation Application

DESCRIPTION	CLONE	SIZE	CAT. NO.
APC BrdU Flow Kit		50 tests	552598
<ul style="list-style-type: none"> • APC-Conjugated Anti-BrdU Antibody: 1 vial • BD Cytofix/Cytoperm Buffer: 1 vial • BD Perm/Wash Buffer (10×): 2 vials • BD Cytoperm Plus Buffer: 1 vial • 7-AAD: 1 vial • Kit Manual • BrdU: 5 vials • DNase: 5 vials 		4 × 50 tests	557892
BD GolgiPlug (containing Brefeldin A)		250 tests	555029
BD GolgiStop (containing Monensin)		250 tests	554724
BD Pharmingen Stain Buffer (FBS)		500 ml	554656
BD Cytofix Buffer		100 ml	554655
Anti-Human IL-2 PE	MQ1-17H12	0.1 mg	554566
Anti-Human CD8 APC-Cy7	SK1	100 tests	557834
Anti-Human CD3	UCHT1	0.5 mg	555329
Anti-Human CD28	CD28.2	0.5 mg	555725
Recombinant Human Interleukin-2 (IL-2)		10 µg	554603
Recombinant Human Interleukin-4 (IL-4)		5 µg	554605
96-well, U-bottomed, non-tissue-culture treated plates; Falcon brand			353910

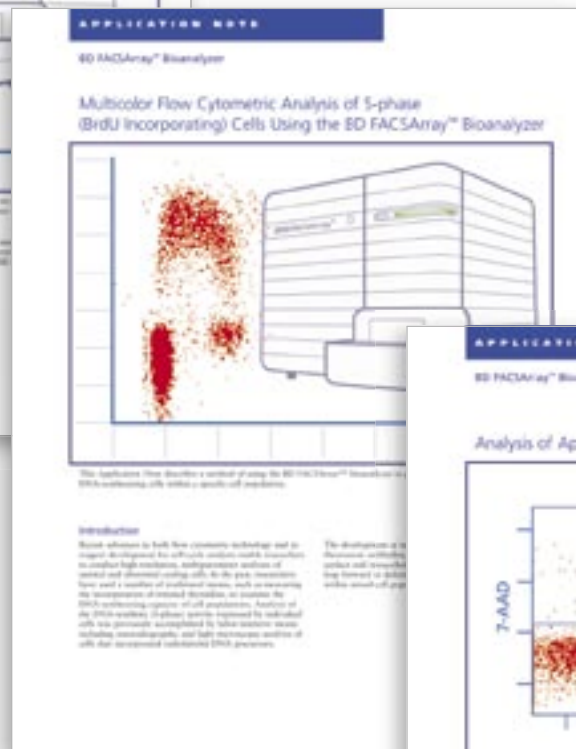
Apoptosis Application

DESCRIPTION	SIZE	CAT. NO.
BD Pharmingen Stain Buffer (BSA)	500 ml	554657
BD Pharmingen Annexin V Binding Buffer, 10× Concentrate	50 ml	556454
BD Pharmingen APC Conjugated Annexin V	100 tests	550474
BD Pharmingen 7-AAD Staining Solution	2 ml	559925

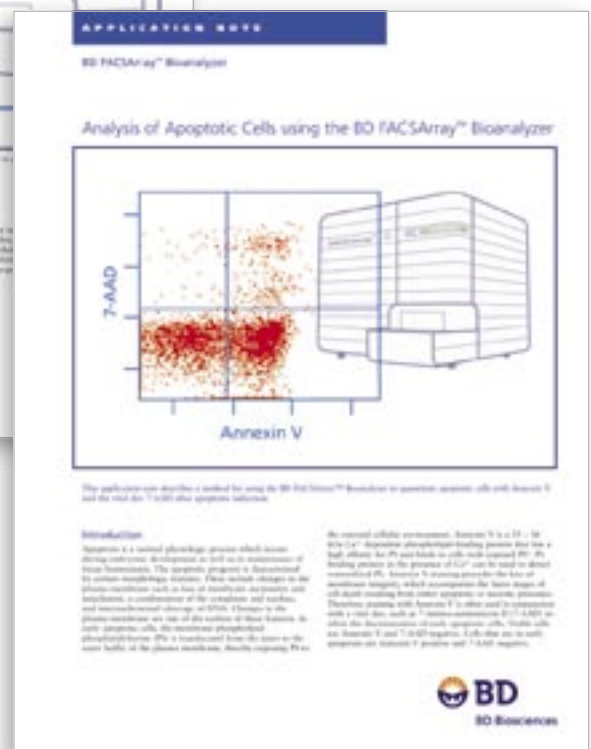
BD FACSArray™ Bioanalyzer Application Notes from BD Biosciences



04-7900030-20A



04-790030-6A



05-790030-1A

To download any of these application notes please visit bdbiosciences.com/bdfacsarray_applications

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