

# BD FACSuite™ Research Assays

Integrating Hardware, Software, and Reagent Solutions for Apoptosis Research

## Features

Take advantage of robust instrument setup for increased reproducibility

Intelligent experimental setup reduces time

Quickly generate reports of results

Optimized for BD Pharmingen™ Annexin V and Caspase-3 flow cytometry reagents

## Hardware and Software

The BD FACSuite™ flow cytometer equipped with BD FACSuite™ software can standardize routine applications. BD FACSuite research assays consist of defined acquisition workspaces that include all of the data plots, gates, and statistics needed to acquire and analyze data that is consistent with the reagent manual or technical data sheet. After acquisition, results are displayed on formatted reports that include specific plots and statistics for each tube as well as summarized results for side-by-side comparison of data for related tubes. Coupled with a novel setup function in BD FACSuite software, these research assays provide a new level of standardization for the study of apoptosis.

## Reagent Kits

Apoptosis, or programmed cell death, plays a key role in both development and normal tissue homeostasis. Changes in the plasma membrane are one of the first characteristics of the apoptotic process detected in living cells. During apoptosis phosphatidylserine (PS) translocates from the inner to the outer leaflet of the plasma membrane and can be detected by flow cytometry through binding to fluorochrome-labeled Annexin V. Combination with a viability dye such as propidium iodide (PI) or 7-AAD allows researchers to distinguish early apoptotic cells from those in a later stage of apoptosis or those already dead.

A later hallmark of apoptosis is the cleavage of caspase-3, which can be detected with fluorochrome-conjugated antibodies that specifically detect the cleaved epitope of the caspase-3 protein.

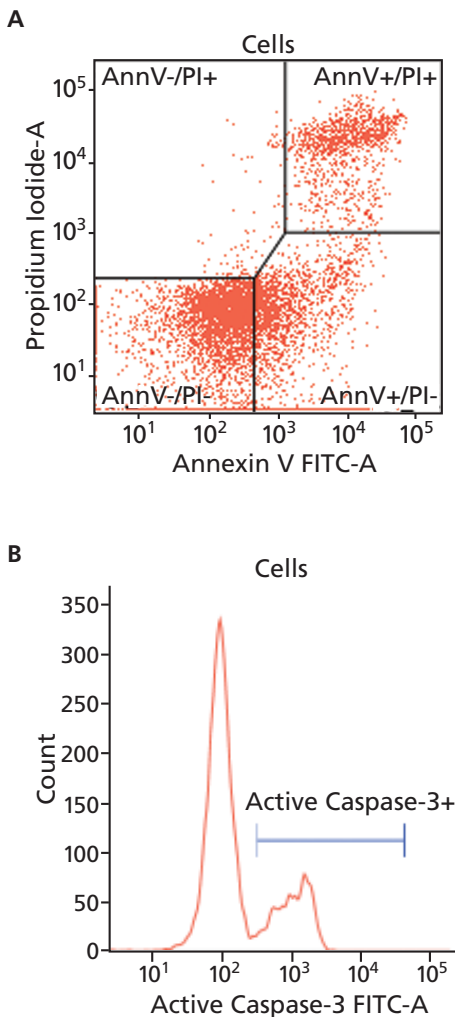
## Results Reports

The Annexin V assays are designed to compare a sample that has been treated with a pro- or anti-apoptotic compound to an untreated sample. The results table (Table 1) compares the treated and untreated samples side-by-side to look at the overall number of cells as well as the percentages of cells that are healthy (Annexin V<sup>-</sup>/viability dye<sup>-</sup>), apoptotic (Annexin V<sup>+</sup>/viability dye<sup>-</sup>), or dead (Annexin V<sup>+</sup>/viability dye<sup>+</sup>).

The active caspase-3 assay is also designed to compare treated and untreated samples. The results table (Table 2) represents the caspase-3<sup>+</sup> cells as a percentage of the total population. A higher percentage of caspase-3 staining indicates an increase in apoptotic cells.

Users can customize many properties of results reports, including requiring approvals and e-signatures, as well as data export and printing preferences.

Visit [bdbiosciences.com/verse](http://bdbiosciences.com/verse) for more information.



**Figure 1.** Human PBMCs stimulated with anti-CD3/CD28 followed by treatment with camptothecin and stained with the BD Pharmingen Annexin V: FITC Apoptosis Detection Kit I (A) and the BD Pharmingen Caspase-3, Active Form, mAb Apoptosis Kit: FITC (B).

# BD FACSuite™ Research Assays Solutions for Apoptosis Research

**Table 1.** Example Results Summary from the Annexin V Assay.

Results Summary			
Label	Untreated	Treated	
Events Acquired	10000.0	10000.0	
% Cells	98.2	96.9	
% Annexin V-/PI-	68.9	54.8	
% Annexin V+/PI-	18.0	31.0	
% Annexin V+/PI+	12.0	13.2	
% Annexin V-/PI+	1.2	1.1	

**Table 2.** Example Results Summary from the Caspase-3 Assay.

Results Summary		
Label	Results	
% Positive Caspase-3 cells: Untreated	6.38	
% Positive Caspase-3 cells: Treated	11.47	

## Product List

Description	Contents	Size	Cat. No.
<b>BD FACSuite Research Assay Software</b>	Installation DVD	1 disc	<b>651363</b>
<b>BD Pharmingen Annexin V: FITC Apoptosis Detection Kit I</b>	Annexin V-FITC, Propidium Iodide Staining Solution, and Annexin V Binding Buffer	100 tests	<b>556547</b>
<b>BD Pharmingen Annexin V: FITC Apoptosis Detection Kit II</b>	Purified Recombinant Annexin V, Annexin V-FITC, Propidium Iodide Staining Solution, and Annexin V Binding Buffer	100 tests	<b>556570</b>
<b>BD Pharmingen Annexin V: PE Apoptosis Detection Kit</b>	Annexin V-PE, 7-AAD, and Annexin V Binding Buffer	100 tests	<b>559763</b>
<b>BD Pharmingen Caspase-3, Active Form, mAb Apoptosis Kit: FITC (CPP32)</b>	FITC Anti-Active Caspase-3 Antibody, BD Cytfix/Cytoperm™ Fixation/Permeabilization Solution, and BD Perm/Wash™ Buffer	100 tests	<b>550480</b>



**BD Biosciences**  
 2350 Qume Drive  
 San Jose, CA 95131  
 US Orders: 877.232.8995  
[answers@bd.com](mailto:answers@bd.com)  
[bdbiosciences.com](http://bdbiosciences.com)

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

The BD FACSVers flow cytometer is covered by one or more of the following US patents: 7,787,197; 7,129,505; 6,897,954; 6,809,804; 6,683,314; and 6,510,007.

BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2011 BD  
 23-13483-00