

“Go with the Flow...”

Cytometry Research, LLC

“...Flow Cytometry, that is!”

Volume III, Issue 1

Cutting Edge Technology for Cutting Edge Scientists

September 2003

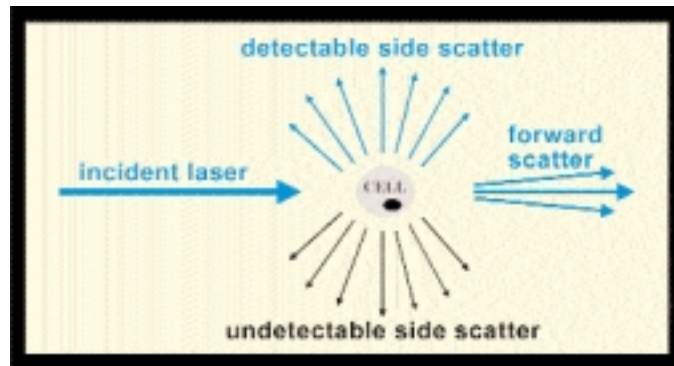
Flow Cytometry and the Machines

by Brian Russell

In this issue we look at what Flow Cytometry is, and how machines provide the information that makes Flow Cytometry an invaluable tool in research.

Common Parameters. Scatter and fluorescence are the two most common parameters in flow cytometry. Scatter is the result of deflection of laser light by cells and/or particles passing through the beam. The fluorescence parameter is the measurement of the fluorescent properties of the particles. Some cell attributes that can be measured by a flow cytometer, such as cell count and cell sub-population phenotype, are analyzed by looking at the scatter. Other attributes can only be determined by combining scatter with fluorescent evaluation using fluorescent labeled probes. These probes will bind exclusively to some sort of specific cell surface marker, or in some cases, an internal cell site.

Let There Be Light. Flow cytometry utilizes the physical properties of light in order to evaluate the characteristics of the cells. Laser light introduces photons to the analysis chamber. *Photons can be described as bits of energy, with shorter wavelengths equaling higher energy.* When it comes to fluorescence, the dye's electrons are excited by photons of a particular wavelength (energy). As a result of this excitation, the electrons emit photons of a higher wavelength (Δ energy = color) as the electrons of the dye return from their excited state to their resting state.



HOT FACS



Cytometry Research welcomes Leonardo Ancheta!

As the summer draws to a close, children go back to school, and research resumes its hectic pace. Cytometry Research is ready to meet the needs of the scientific community by providing flow cytometry services to illuminate and elucidate your cellular investigations. Brian Russell and Leonardo Ancheta are ready to go — bring in your samples and you'll have your results the same day!

Inside

Denise Higgins, Editor

2-3

Understanding FACS*

4

Fun “FACS”

*FACS is a registered trademark of Becton Dickinson