

## Cytometry Research Offers Latest in Analysis and Sorting Services

Since 1992, Cytometry Research has provided quality, dependable flow cytometry services to the San Diego biotechnological community. Throughout the years as new assays and dyes have become available, they have been added to our repertoire of services. Whether cell analysis or cell sorting is needed, the best equipment, personnel, and expertise are available. Here are a few examples of the services currently provided:

**Cell surface receptor expression**  
**Immunophenotyping**  
**DNA cell cycle/ploidy**  
**Viability assay**  
**Apoptosis assay**  
**Cytokine expression**  
**Intracellular assay detection**  
**Electro-permeabilization quantification**  
**Proliferation assay**  
**Oxidative cell measurement**

Available Laser Excitation Selection:

**340-480 nm    488 nm    514 nm    633-635 nm**

A comprehensive schedule of services is available on our website at: [www.CytometryRes.com](http://www.CytometryRes.com). Or you can call Cynthia at the Cytometry Research office (858-642-1988) and she'll mail or fax the information to you.



*Cynthia Wilson  
of Cytometry Research  
assists scientists  
in arranging  
flow cytometry services.*

## Multi-Parameter DNA Flow Cytometry

Summary of:

**Carbonari M, Tedesco T and Fiorilli M (2001) A Unified Procedure for Conservative (Morphology) and Integral (DNA and Immunophenotype) Cell Staining for Flow Cytometry. *Cytometry* 44:120-125.**

**A** novel method developed by Carbonari *et al.* makes it possible to perform four-color immunophenotyping in conjunction with DNA labeling. The ability to extract information from multiple cell subsets simultaneously, and then to discover how each subset influences the different phases of the DNA cell cycle, is useful to many scientists.

This new method has been termed integral hot staining (IHS). It subjects cells to a mild permeabilization and fixation treatment at room temperature followed by labeling with fluorochrome-conjugated monoclonal antibodies and with the DNA dye 7-aminoactinomycin D (7-AAD) at 56°C.

Current protocols involving immunophenotyping and simultaneous DNA labeling significantly modify differential light scattering (DLS). This new procedure

maintains good DLS emissions. DLS is useful in the identification of morphologically different cell sub-populations. The quality of immunostaining in conjunction with DNA-labeling showed improvement over past methods, as well. Past methods utilized the DNA dye propidium iodide (PI) which had an emission wavelength too close to other fluorochrome conjugates such as phycoerythrin (PE).

Finally, by combining the labeling of fluorochrome-conjugated monoclonal antibodies and 7-AAD dye in a single step, this new method demonstrated good fluorochrome expression and a well-resolved DNA peak width measurement for viewing DNA content and lymphocyte sub-populations. Overall this new labeling method provides enhanced sensitivity as well as good recovery of input cells.