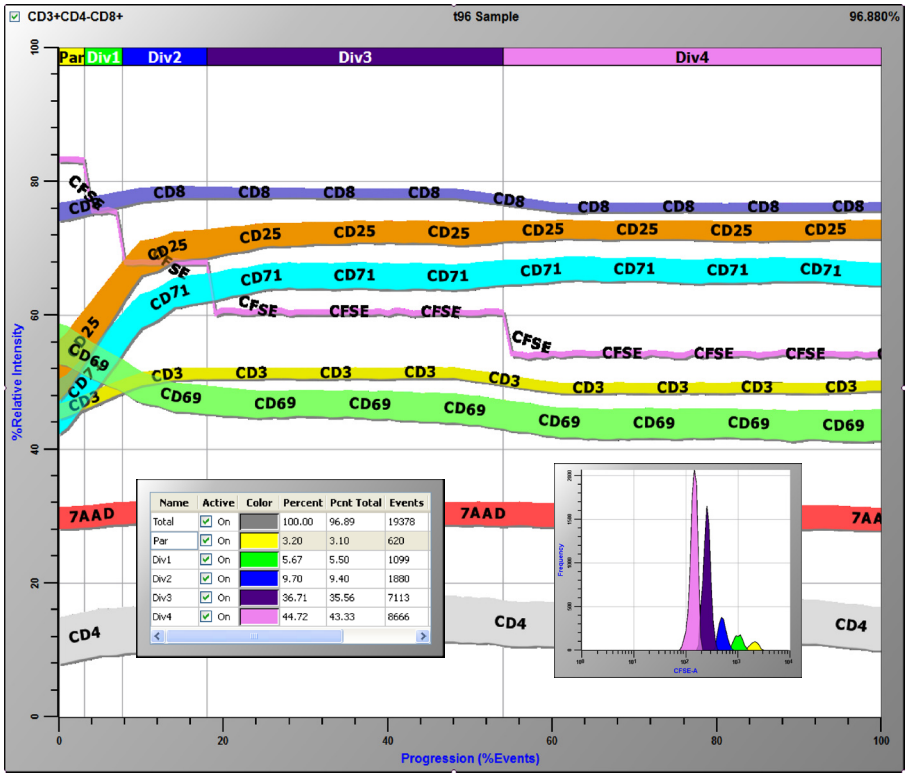
GemStone™

Cell Tracking Dye Analysis in GemStone



Data kindly provided by Dr. Jonni Moore and Andrew Bantly, University of Pennsylvania

Presented here is a GemStone analysis at t=96 hours of a 12-parameter file of lymphocytes that were labeled with CFSE and stimulated with antiCD3 and IL2 at t=0. A low constant Parameter Profile was used with the 7AAD parameter (red band) to eliminate dead cells from the analysis. Additional constant Parameter Profiles were used to select for the CD3+ events (yellow band), CD4- events (light gray band), and CD8+ events (dark blue band).

Notice that as the cells divide, the CFSE intensity decreases in a staircase-like manner (pink band). Statistics (left inset) for each step in CFSE are comparable to those produced by least-squares analysis software used for tracking dye analysis. The inset on the right shows the overlapping daughter populations in a conventional histogram of CFSE.

Most importantly, we can examine how activation markers such as CD69 (green band), CD25 (tan band), and CD71(light blue band) change with cell divisions.

Think of it as the MRI of cytometry.

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GemStone™ is a revolutionary new paradigm for analysis of high-dimensional, flow cytometry data. Think of it as the MRI of cytometry.

Based on the patent-pending Probability State Modeling™ system, GemStone eliminates the problems that have faced cytometry analysis for decades, providing a solution that is science-based, data-driven, scalable, and reproducible.

Featuring:

- Novel analysis approach defines populations without gates.
- Unlike conventional analysis, GemStone's Probability State Models actually *improve* with additional parameters.
- Parametric Overlay plots present *all* parameters in a simple, correlated display that is easily understood by anyone with a basic understanding of biology.
- Advanced Panel Integration™ provides a new platform for analyzing and co-plotting all parameters for all files in a panel, revealing the true relationships of markers.
- A discovery tool - allowing scientists to understand new and previously hidden relationships of measured parameters.
- State Vector arrows and animations let you understand your data as never before. Data zooming, a batch system with a built-in database, and database parameter mapping are a few of the innovative new features.