Flow Cytometry Data Analysis and Management

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Flow cytometry is the analysis of biological materials by detection of the light-absorbing properties of cells or subcellular fractions passing in a narrow stream through a laser beam. Data collected through flow cytometry can be used to identify potential drug targets, detect molecular content of cells, and detect gene expression patterns. Despite its practical significance, flow cytometry suffers some setbacks in terms of handling the data output. Increasing data throughput, error-prone analysis methods and non-standardized formats are some of the major issues. The purpose of this study is to investigate ongoing efforts to standardize flow data. We mainly focus on a prevailing standard flow data structure and prism-based data analysis approach, which allow the exchange and reuse of data. We will also explore the flexibility of these approaches in regards to addressing underlying biological issues.