

CyTOF[®] 2

Mass Cytometry System



Discover more. Imagine more.

Mass Cytometry. The Future of Cytometry Today.

Mass cytometry resolves multiple metal probes per cell with minimal signal overlap, maximizing the information obtained from a single sample. With over 100 detector channels and over 30 isotopic probes, mass cytometry provides researchers with an unparalleled ability to phenotypically and functionally profile cells from normal and diseased states.

The DVS line of reagents, instrumentation, and data analysis tools provide all the tools necessary for novel discovery applications using mass cytometry, including:



MaxPar® line of metal-conjugated probes, panel kits and labeling reagents



State-of-the-art CyTOF 2 Mass Cytometer



High dimensional analysis tools from DVS Cytobank.

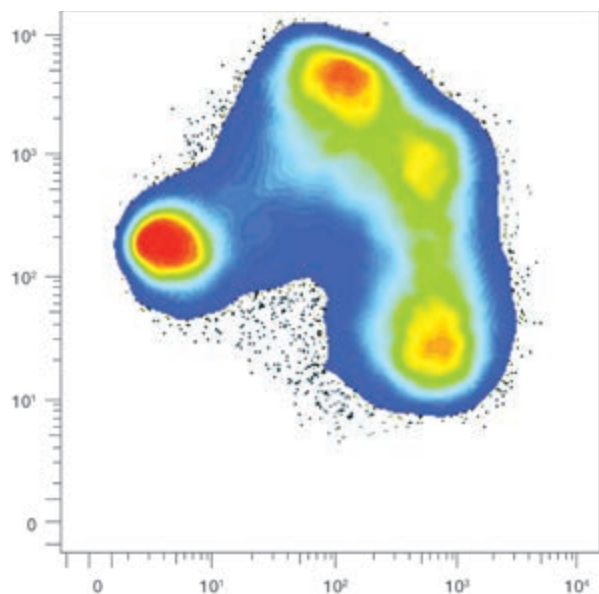
CyTOF Applications

Powerful. Proven Research.

Mass Cytometry enables comprehensive profiling of cellular phenotype, signaling state, cytokine/chemokine expression, and viability. It has also been used in transformative high-dimensional studies in diverse disciplines including immunology, cancer research, stem cell biology and drug profiling and some recent examples from the published literature include:

Cytokine and Surface Profiling

Simultaneous analysis of 34 phenotypic and functional markers defined a continuum of cells connecting naïve and memory CD8+ T cell subsets. Along the continuum, cells were functionally distinguishable based on the unique array of cytokines they express, allowing for an unappreciated flexibility in orchestrating pathogen responses.



Deep phenotypic and functional profiling of CD8+ T cells
Newell EW, et. al. *Immunity* 36, 142.

Cell Signaling

Mass Cytometry analysis provided a system-wide view of immune signaling responses of the human hematopoietic system. Analysis of the phenotyping-signaling 31 marker panel for 24 treatment conditions provided simultaneous characterization of all major bone marrow subsets, against which drug action and disease can be compared for mechanistic studies and pharmacologic intervention.



Comprehensive analysis of hematopoietic system signaling responses
Bendall SC, Simonds EF, et. al. *Science* 332, 687.

CyTOF® 2 Mass Cytometer

Discover more per sample.

The CyTOF 2 Mass Cytometer simultaneously resolves multiple parameters with minimal signal overlap, providing unprecedented insights into the functional and phenotypic complexity of biological systems at the single cell level.

The CyTOF 2 analyzes cells labeled with a panel of reagents conjugated to heavy metal isotopes using state-of-the-art time of flight mass cytometry technology.

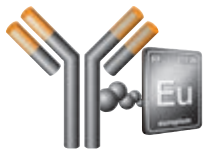
With over 100 detection channels and 34 MaxPar® metal probes, CyTOF 2 simplifies panel design and unlocks the functional and phenotypic complexity of biological systems at the single cell level.



MaxPar® Reagents

Simply more.

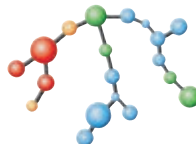
DVS offers a full line of reagents for high dimensional panel design, including metal-conjugated antibodies, application specific panel kits, as well as reagents for custom antibody labeling and nucleic acid staining.



MaxPar® Metal Conjugated Antibodies

DVS offers a large selection of MaxPar metal conjugated antibodies.

- Pre conjugated and quality controlled for optimal experimental results
- Wide selection of Human and Mouse targets to cover a variety of applications
- Antibodies are sourced from the most reliable antibody vendors



MaxPar® Panel Kits

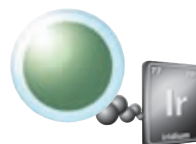
Getting started with mass cytometry is now easier than ever. MaxPar Panel Kits provide all the necessary reagents for profiling human and mouse systems by mass cytometry. The kits contain:

- Sample prep staining buffers and detailed protocol optimized for mass cytometry
- Nucleic Acid intercalator for cell identification
- A panel of up to 17 pre-titrated metal conjugated phenotypic antibodies which can be combined with additional MaxPar antibodies to deeply profile your system of interest



MaxPar® Metal Labeling Kits

MaxPar labeling kits for 32 different metals are available from DVS Sciences for conjugating metals to antibodies or intracellular proteins. The labeling kits utilize a traditional approach of adding a metal polymer tag to the Fc region of the antibody using a maleimide linker and disulfide reduction chemistry.



Nucleic Acid Intercalators

DVS provides two nucleic acid intercalators, one containing natural abundance Iridium and the other containing 103Rh, for live-dead discrimination and cell identification in routine mass cytometry staining protocols.

Data Analysis

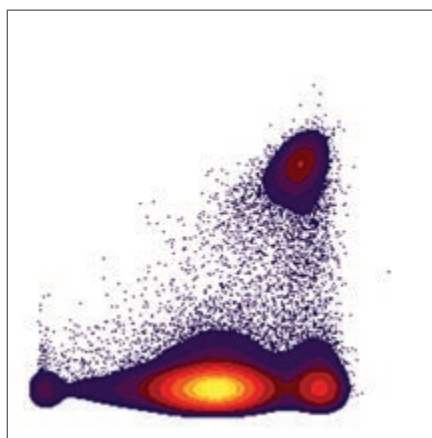


Powerful analysis options.

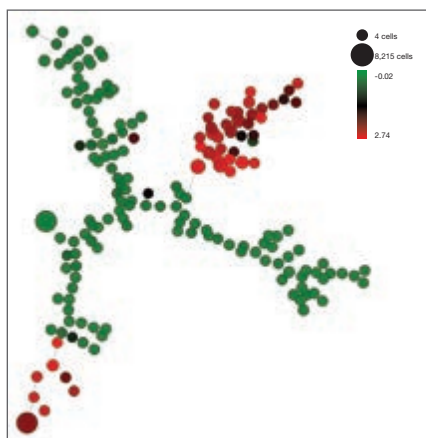
Mass cytometry experiments routinely measure dozens of functional and phenotypic parameters in millions of single cells, output as .txt and .fcs files. Analysis of such high dimensional datasets is performed using a tool kit that includes not only traditional histograms and bivariate plots, but also novel clustering algorithms, neural networks, and dimensionality reduction methods.

DVS Sciences has partnered with Cytobank to provide DVS Cytobank, a cloud-based platform that offers an extensive suite of powerful tools for analysis of mass cytometry data, including:

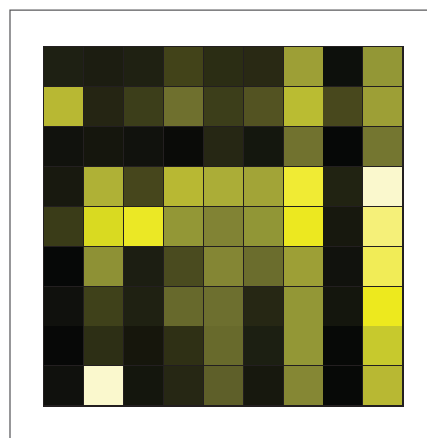
- The SPADE clustering algorithm for high dimensional panel analysis
- Histograms, bivariate plots, gating tools and statistics for traditional cytometric analysis
- Heat maps and dose response curves for comprehensive summarization of experimental data
- Intuitive management of files and analysis results, with secure storage and backup
- Web-based tools for sharing data and analysis with collaborators



Bivariate Plot



SPADE



Heat Map



Support

DVS Sciences is committed to the success and satisfaction of our customers and their use of the CyTOF® instrument. Enabling new insights and discoveries in the life sciences is our mission.

Your system purchase includes instrument installation, extensive user training, and a twelve month warranty. The DVS Sciences' field service team are readily available to assist customers.

Sales: sales@dvssciences.com
Support: support@dvssciences.com

For assistance by phone, please call:

1-855-387-2986

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