



The Maxpar Direct Immune Profiling System

30 markers. 1 tube. 5-minute data analysis.

The new standard in immune profiling.

The Maxpar® Direct™ Immune Profiling System is the first complete sample-to-answer solution for high-dimensional immune profiling of human PBMC and whole blood.

Designed as a simple single-tube workflow, the system brings together CyTOF® technology, a dry 30-marker antibody panel and automated analysis with Maxpar Pathsetter™ software so you can easily quantify 37 immune cell populations (Figure 1) with performance you can trust.

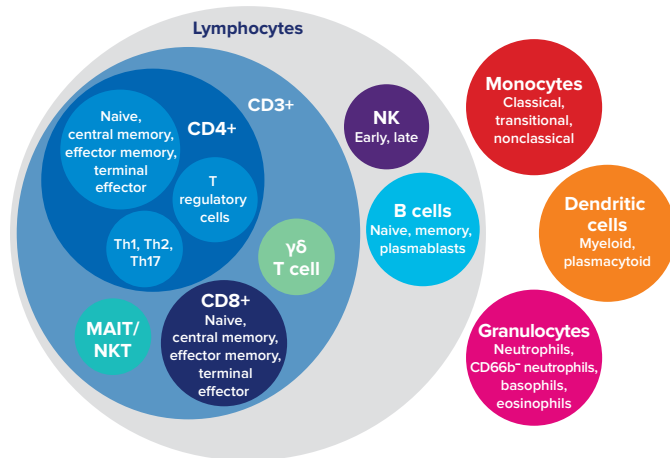


Figure 1. A comprehensive immune profile. The 37 immune cell subsets identified using the Maxpar® Direct™ Immune Profiling Assay™ and Maxpar Pathsetter™ software.

Immune cell profiling without compromise

The highly multiplexed 30-marker antibody panel was developed with input from expert immunologists in academia and biopharma and builds on the panels developed by the Human ImmunoPhenotyping Consortium¹.

Designed using industry-proven antibody clones, this assay provides the broadest single-tube view of the immune system from each precious sample.

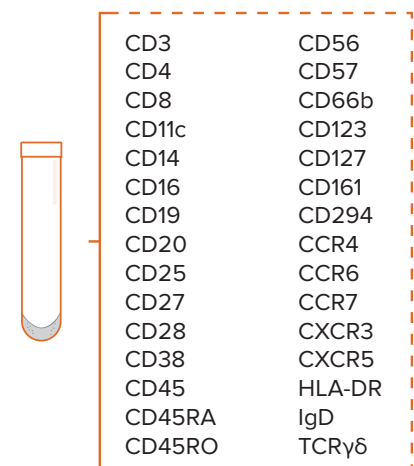
You no longer need to compromise your study design due to the limitations of fluorescence cytometry.

Key benefits

Comprehensive—Profile 37 immune cell populations from PBMC or whole blood with an optimized 30-marker panel.

Efficient—Simple single-tube workflow with pushbutton reporting. Just add sample and go.

Reliable—Produce consistent results lot-to-lot, run-to-run and site-to-site.



CD3	CD56
CD4	CD57
CD8	CD66b
CD11c	CD123
CD14	CD127
CD16	CD161
CD19	CD294
CD20	CCR4
CD25	CCR6
CD27	CCR7
CD28	CXCR3
CD38	CXCR5
CD45	HLA-DR
CD45RA	IgD
CD45RO	TCRγδ

Figure 2. Single-tube antibody panel design. All antibody clones used in the kit are familiar and industry-proven. See the Technical Data Sheet for details.

Flexible by design

While the Maxpar Direct Immune Profiling Assay provides excellent immune cell coverage, you can readily add 18 or more antibodies to support your study goals (Figure 3).

The minimal channel crosstalk of mass cytometry simplifies expansion of high-parameter panels—a significant advantage over fluorescence cytometry.

Easily obtain labeled antibodies.

- Choose from the expansive Fluidigm catalog of Maxpar metal-labeled antibodies.
- Select a preconfigured expansion panel containing labeled antibodies ready to drop into open channels.
- Label your own antibodies using a Fluidigm Maxpar labeling kit.
- Use the custom [conjugation service](#) for guaranteed antibody labeling by Fluidigm experts.

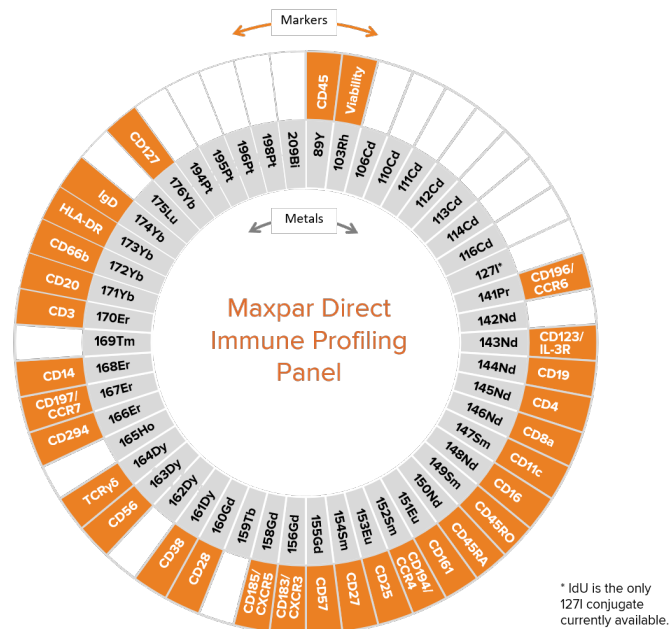


Figure 3. The 30 markers plus 18 open channels in the Maxpar Direct Immune Profiling Assay. The 18 open channels are 106Cd, 110Cd, 111Cd, 112Cd, 113Cd, 114Cd, 127I, 141Pr, 142Nd, 143Nd, 144Nd, 145Nd, 146Nd, 147Sm, 148Nd, 149Sm, 150Nd, 151Eu, 152Sm, 153Eu, 154Sm, 155Gd, 156Gd, 157Gd, 158Gd, 159Tb, 160Dy, 161Dy, 162Dy, 163Dy, 164Dy, 165Ho, 166Er, 167Er, 168Er, 169Tm, 170Er, 171Yb, 172Yb, 173Yb, 174Yb, 175Lu, 176Lu, 177Lu, 178Lu, 179Lu, 180Lu, 181Lu, 182Lu, 183Lu, 184Lu, 185Lu, 186Lu, 187Lu, 188Lu, 189Lu, 190Lu, 191Lu, 192Lu, 193Lu, 194Lu, 195Lu, 196Lu, 197Lu, 198Lu, 199Lu, 200Lu, 201Lu, 202Lu, 203Lu, 204Lu, 205Lu, 206Lu, 207Lu, 208Lu, 209Lu, 210Lu, 211Lu, 212Lu, 213Lu, 214Lu, 215Lu, 216Lu, 217Lu, 218Lu, 219Lu, 220Lu, 221Lu, 222Lu, 223Lu, 224Lu, 225Lu, 226Lu, 227Lu, 228Lu, 229Lu, 230Lu, 231Lu, 232Lu, 233Lu, 234Lu, 235Lu, 236Lu, 237Lu, 238Lu, 239Lu, 240Lu, 241Lu, 242Lu, 243Lu, 244Lu, 245Lu, 246Lu, 247Lu, 248Lu, 249Lu, 250Lu, 251Lu, 252Lu, 253Lu, 254Lu, 255Lu, 256Lu, 257Lu, 258Lu, 259Lu, 260Lu, 261Lu, 262Lu, 263Lu, 264Lu, 265Lu, 266Lu, 267Lu, 268Lu, 269Lu, 270Lu, 271Lu, 272Lu, 273Lu, 274Lu, 275Lu, 276Lu, 277Lu, 278Lu, 279Lu, 280Lu, 281Lu, 282Lu, 283Lu, 284Lu, 285Lu, 286Lu, 287Lu, 288Lu, 289Lu, 290Lu, 291Lu, 292Lu, 293Lu, 294Lu, 295Lu, 296Lu, 297Lu, 298Lu, 299Lu, 300Lu. For a full list of antibodies, clones and metals in the panel, refer to the Product Information Sheet PRD036.

Proven reproducibility, lot to lot and site to site

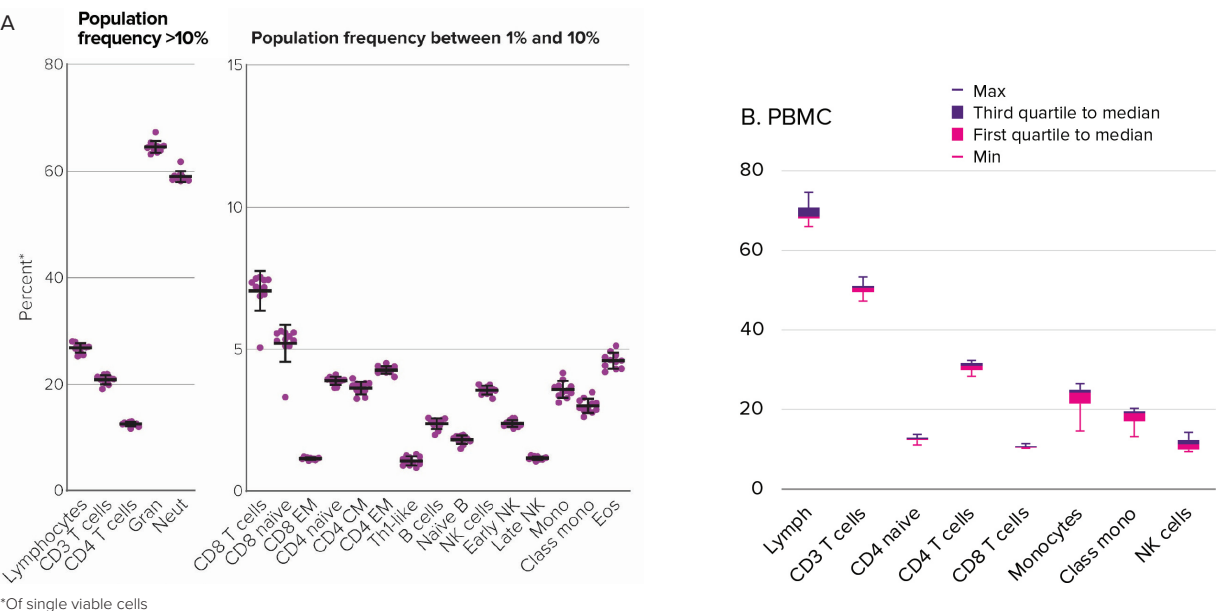


Figure 4. A. Performance consistency across 11 lots of Maxpar Direct Immune Profiling Assay tubes. Data available on request.
B. Highly consistent results for single whole blood donor sample run at 6 sites, in triplicate, n=18. See the white paper for full data set and analysis: [Deep Immune Profiling with the Maxpar Direct Immune Profiling System \(FLDM-400247\)](#).

Easy, efficient workflows for sample staining, acquisition and analysis

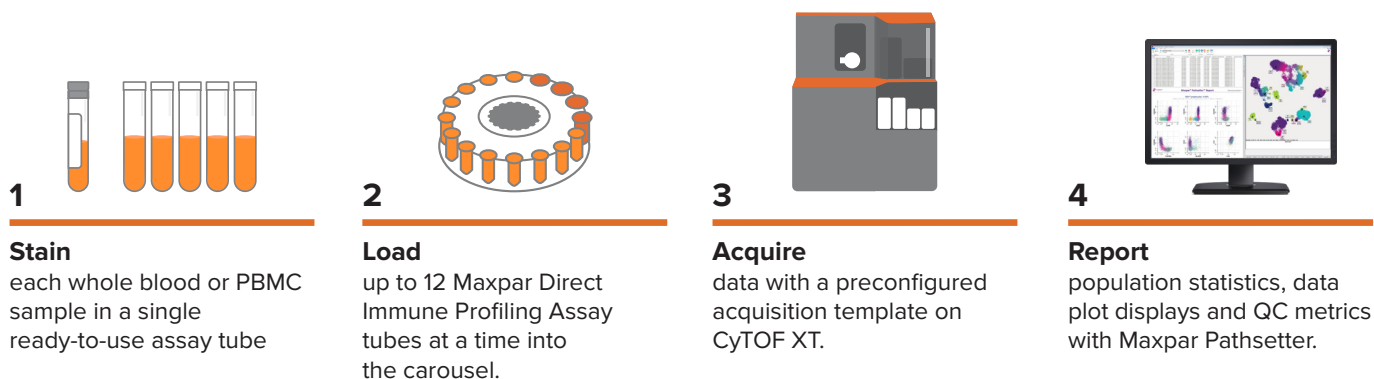


Figure 5. Streamlined, automated sample acquisition on CyTOF XT™

Stain, freeze, store and even ship samples for analysis later

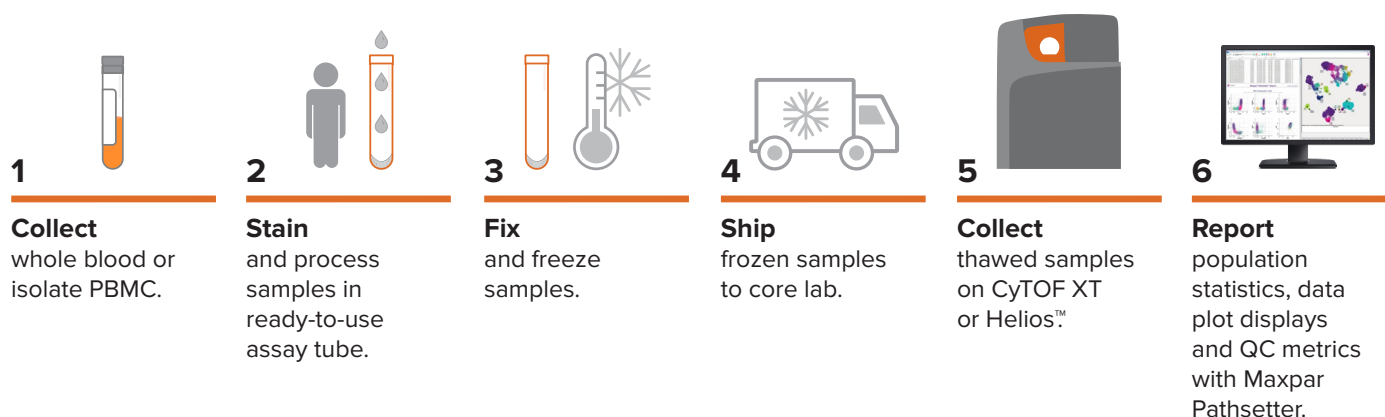


Figure 6. Samples stained with the Maxpar Direct Immune Profiling Assay can be fixed, frozen and stored for analysis at a later time or at another location.

Multi-site studies using the Maxpar Direct Immune Profiling Assay

- Rouphael, N. et al. “Immunophenotyping assessment in a COVID-19 cohort (IMPACC): A prospective longitudinal study.” *Science Immunology* 6 (2021): eabf3733.
- Bagwell, C.B. et al. “Multi-site reproducibility of a human immunophenotyping assay in whole blood and peripheral blood mononuclear cells preparations using CyTOF® technology coupled with Maxpar® Pathsetter™, an automated data analysis system.” *Cytometry Part B Clinical Cytometry* 98 (2020): 146–160.

National Clinical Trials Using the Maxpar Direct Immune Profiling Assay

- IMPACC (Immunophenotyping Assessment in a COVID-19 Cohort) Clinical Study (NCT04378777)
Sponsor: National Institute of Allergy and Infectious Disease (NIAID); 12 participating institutions in North America
- COntAGlous (COVID-19 Advanced Genetic and Immunologic Sampling) Trial (NCT04327570)
Sponsor: Universitaire Ziekenhuizen Leuven
- Antidepressant Trial with P2X7 Antagonist JNJ-54175446 (ATP) (NCT04116606)
Sponsor: CCTU-Core
- COVID-19: Pediatric Research Immune Network on SARS-CoV-2 and MIS-C (PRISM) (NCT04588363)
Sponsor: National Institute of Allergy and Infectious Diseases (NIAID)

Maxpar Pathsetter: Your personal data analysis expert

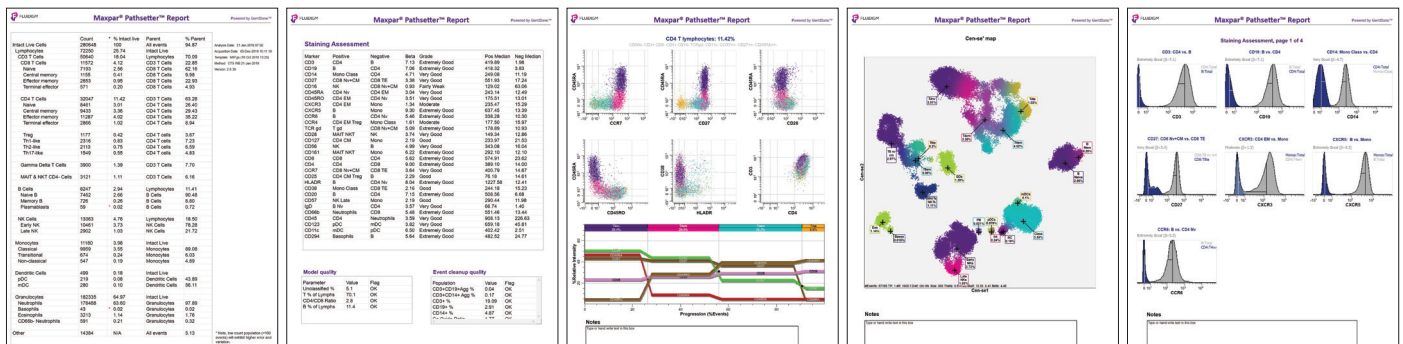
Maxpar Pathsetter is a fully automated reporting and data analysis solution that automatically identifies 37 immune cell types in FCS files from samples processed with the Maxpar Direct Immune Profiling Assay.

Developed using probability state modeling, a proven high-parameter analytic approach¹, the software eliminates the variability of manual gating and provides an efficient and reliable solution for longitudinal and multi-site studies.

In as little as 5 minutes Maxpar Pathsetter provides:

- Automated selection and enumeration of single viable cells
- Staining quality assessment for all 30 markers in each sample
- 2D dot plots and overlay plots (probability state modeling readout) for each population
- A high-dimensional Cen-se™ (next-gen t-SNE) map of identified populations
- A report summary for each population, with cell number, percent of total cells and percent of parent population
- A report of QC metrics for acquisition and modeling quality

Maxpar Pathsetter analytic report



Summary report

QC report

Cell type reports

Cen-se' report

Staining Assessment reports

Figure 6. The Maxpar Pathsetter analytic report. Representative Pathsetter report pages (left to right): summary report showing all population statistics; QC report with Staining Assessments and performance alerts; cell type reports with associated plots; Cen-se' report with a map of selected populations, color-coded, labeled and quantified; Staining Assessment review reports with histograms for all markers.

Ordering information

Product Name	Catalog Number
Maxpar Direct Immune Profiling Assay, 30 Marker—25 Tests	201325
Maxpar Pathsetter	401019

1. Maecker, H.T. et al. "Standardizing immunophenotyping for the Human Immunology Project." *Nature Reviews Immunology* 12 (2012): 191–200.
2. Bagwell, C. Probability state modeling: a new paradigm for cytometric analysis. In: Litwin, V., Marder, P., editor. *Flow Cytometry in Drug Discovery and Development*. Hoboken NJ: John Wiley & Sons, Inc. (2010): 283.

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