

# Maxpar Human Regulatory T Cell Phenotyping Panel Kit, 13 Marker—25 Tests

Catalog: 201319

Package size: 25 tests

Storage:

- Antibodies, buffers, and water: 4 °C. Do not freeze.
- Cell-ID Intercalator-Ir: -20 °C.

Contents:

- Maxpar® Cell Staining Buffer (500 mL)
- Maxpar Nuclear Antigen Staining Buffer Concentrate 4X (8 mL)
- Maxpar Nuclear Antigen Staining Buffer Diluent (30 mL)
- Maxpar Nuclear Antigen Staining Perm 1X (100 mL)
- Maxpar Fix and Perm Buffer (25 mL)
- Maxpar Water (500 mL)
- Cell-ID™ Ir Intercalator (125 µM; 25 µL)
- Maxpar antibodies (see table for panel)\*

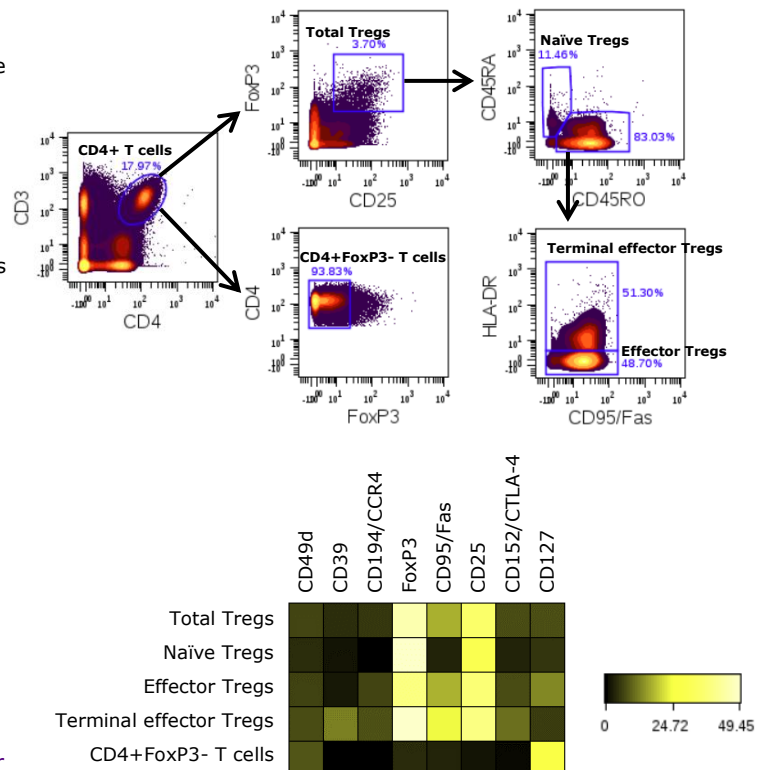
\* The antibodies are provided in individual tubes, not a pre-mixed cocktail.

Target	Clone	Metal
CD49d	9F10	141Pr
CD4	RPA-T4	145Nd
CD194/CCR4	L291H4	149Sm
CD45RA	HI100	153Eu
CD3	UCHT1	154Sm
CD39	A1	160Gd
FoxP3	PCH101	162Dy
CD95/Fas	DX2	164Dy
CD45RO	UCHL1	165Ho
CD25	2A3	169Tm
CD152/CTLA-4	14D3	170Er
HLA-DR	L243	174Yb
CD127	A019D5	176Yb

## Technical Information

**Description:** Regulatory T cells (Tregs) are a suppressive subset of CD4+ T helper (Th) cells important for the regulation of immune responses. Tregs are defined by expression of the transcription factor FoxP3. Additional Treg markers include constitutive expression of the high-affinity IL-2R $\alpha$  chain (CD25) and cytotoxic T lymphocyte-associated antigen 4 (CTLA-4), along with low expression of the IL-7R $\alpha$  chain (CD127). CD4+CD25+FoxP3+ Tregs can be divided into two main types: thymically derived Tregs (tTregs) and peripherally derived Tregs (pTregs). Although it is difficult to distinguish between tTregs and pTregs phenotypically, both are thought to have an essential role in immune regulation. Because of their immunoregulatory function, Tregs are an attractive therapeutic target in many different immune-mediated diseases, including transplantation, autoimmunity, and autoinflammation.

**Recommended usage:** For staining with the Maxpar Human Regulatory T Cell Phenotyping Panel Kit, cells should be prepared using standard techniques and stained according to the [Maxpar Nuclear Antigen Staining Protocol](#). The kit contains buffers optimized for staining and a nucleic acid intercalator used for single-cell identification. Additional materials and equipment may be required for cell staining and acquisition. Please refer to [Maxpar Nuclear Antigen Staining Protocol](#). Data collection is performed on a CyTOF® mass cytometer.



Human PBMC were stained with the Maxpar Human Regulatory T Cell Phenotyping Panel Kit. Total, naïve, effector, and terminal effector populations of CD4+ regulatory T cells were identified as indicated, in addition to CD4+FoxP3- non-regulatory T cells. The median expression of markers in each population is indicated in the heat map.

## References

Hoeppli, R.E. et al. "The environment of regulatory T cell biology: cytokines, metabolites, and the microbiome." *Frontiers in Immunology* 6 (2015): 61.

Sakaguchi, S. et al. "FOXP3+ regulatory T cells in the human immune system." *Nature Reviews Immunology* 10 (2010): 490–500.

**For technical support visit <http://techsupport.fluidigm.com>. For general support visit <http://www.fluidigm.com/support>.**

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