Maxpar Human ES/iPS Phenotyping Panel Kit, 6 Marker—25 Tests

Catalog: 201320
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)*

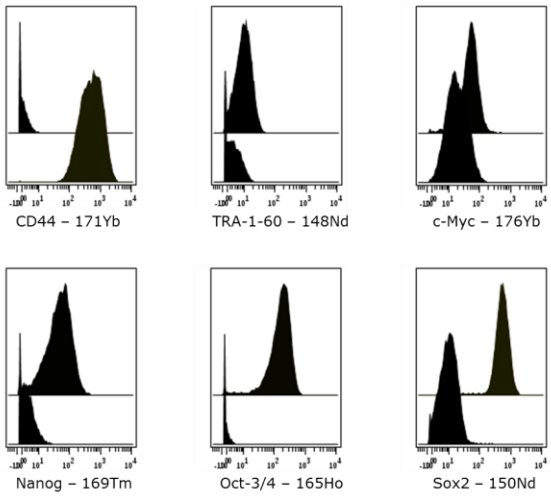
Target	Clone	Metal
TRA-1-60	TRA-1-60	148Nd
Sox2	O3O-678	150Nd
Oct-3/4	40/Oct-3	165Ho
Nanog	N31-355	169Tm
CD44	IM7	171Yb
c-Myc	9E10	176Yb

* The antibodies are provided in individual tubes, not a premixed cocktail.

Technical Information

Description: Induced pluripotent stem (iPS) cell technology was pioneered in 2006, when it was shown that cellular reprogramming from somatic cells could be achieved through forced expression of the transcription factors Oct-3/4, Klf4, Sox2, and c-Myc (OKSM). Based on morphology, capacity to self-renew and developmental potential, iPS cells are nearly indistinguishable from their embryonic stem cell counterparts. iPS cells hold great promise in the field of regenerative medicine because they propagate indefinitely, as well as give rise to every other cell type in the body. Since iPS cells can theoretically be derived from any adult tissue, they not only bypass the need for embryos, but can be made in a patient-matched manner. Recently, mass cytometry was used to map the progression of mouse somatic cells undergoing reprogramming to iPS cells.

Recommended usage: For staining embryonic stem (ES) or induced pluripotent stem (iPS) cell cultures isolated by standard techniques 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.



Expression levels of the 6 markers in the Maxpar Human ES/iPS Phenotyping Panel Kit on human H9 embryonic stem cells (top overlay) and BJ fibroblasts (bottom overlay). Cells kindly provided courtesy of Craig E. Nelson lab, University of Connecticut.

References

Buganim, Y. et al. "Mechanisms and models of somatic cell reprogramming." *Nature Reviews Genetics* 14 (2013): 427–39.

Lujan, E. et al. "Early reprogramming regulators identified by prospective isolation and mass cytometry." *Nature* 521 (2015): 352–6.

Zunder, E.R. et al. "A continuous molecular roadmap to iPSC reprogramming through progression analysis of single-cell mass cytometry." *Cell Stem Cell* 16 (2015): 323–37.