Anti-Human CD279/PD-1 (EH12.2H7)-165Ho

Catalog number, package size: 3165042B, 100 tests
3165042C, 25 tests
Clone: EH12.2H7
Other Names: Programmed death 1
Isotype: Mouse IgG1, κ

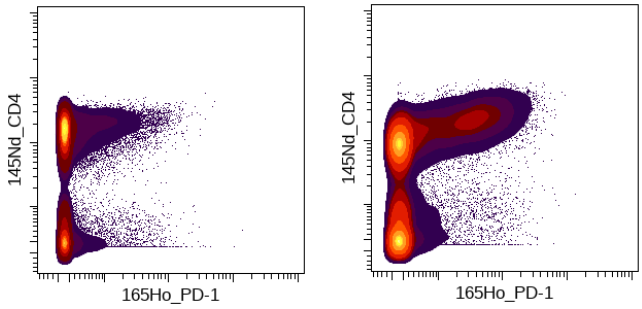
Reactivity: Human, Cynomolgus Monkey, Rhesus, Chimpanzee, Squirrel Monkey, Marmoset
Tag: 165Ho
Formulation: Antibody stabilizer with 0.05% sodium azide
Storage: Store at 2–8 °C. Do not freeze.
Application: CyTOF® suspension mass cytometry

Technical Information

Description: Programmed death-1 (PD-1), also known as CD279, is a 55 kDa member of the CD28 immunoglobulin superfamily expressed on activated T cells, B cells, dendritic cells, and macrophages. Engagement of PD-1 inhibits function in these immune cell subsets. PD-1 has two known counter-receptors or ligands, B7-H1 (CD274, PD-L1) and B7-DC (CD273, PD-L2). PD-1 contains the immunoreceptor tyrosine-based inhibitory motif (ITIM) in its cytoplasmic domain. The PD-1/B7-H1 pathway has emerged as playing a pivotal role in the negative regulation of T cell activity, including suppression of immune responses against cancer.

Application: The metal-tagged antibody is designed and formulated for the application of suspension mass cytometry using the Fluidigm CyTOF suspension systems on healthy human PBMC.

Validation: Each lot of conjugated antibody is quality control-tested by CyTOF suspension mass cytometry analysis of stained cells using appropriate positive and negative cell staining and/or activation controls.



Three-day rested (left) or PHA-stimulated human PBMC were stained with anti-CD4 (RPA-T4)-145Nd and anti-PD-1 (EH12.2H7)-165Ho antibodies. Cells shown are gated on total T cells (CD45+CD20-CD14-CD3+).

Recommended use: Use 1 µL for up to 3 x 10^6 live cells in 100 µL staining volume. We recommend titrating the antibody for optimal performance for each of the desired applications. Centrifuge the stock antibody at 12,000 × *g* for 5 min to sediment antibody aggregates. Fixation is typically used in intracellular staining protocols or in barcoding with the Cell-ID™ 20-Plex Pd Barcoding Kit (PN 201060). However, fixing before antibody staining can affect epitope structure and antibody binding, with the impact varying on the type and concentration of fixative and the protocol used. It is therefore important to perform a small, preliminary antibody staining experiment, with and without fixation, using non-critical samples.

Applicable Protocols

Before using this product, refer to the instructions in the Maxpar® Cell Surface Staining with Fresh Fix Protocol (400276).

References

Bandura, D.R. et al. "Mass cytometry: technique for real time single cell multitarget immunoassay based on inductively coupled plasma time-of-flight mass spectrometry." Analytical Chemistry 81 (2009): 6,813–22.

Ornatsky, O.I. et al. "Highly multiparametric analysis by mass cytometry." Journal of Immunological Methods 361 (2010): 1–20.

Hartmann, F.J. et al. "Comprehensive immune monitoring of clinical trials to advance human immunotherapy." Cell Reports. 28 (2019):819–31.

Bengsch, B. et al. "Epigenomic-guided mass cytometry profiling reveals disease-specific features of exhausted CD8 T cells." Immunity 48 (2018): 1,029–45.

Gadalla, R. et al. "Validation of CyTOF against flow cytometry for immunological studies and monitoring of human cancer clinical trials." Frontiers in Oncology 9 (2019): 415.

Safety

Use standard laboratory safety protocols. Read and understand the safety data sheets (SDSs) before handling chemicals. To obtain SDSs, go to fluidigm.com and search for 3000000X.

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