

Technical Data Sheet

iF647 Anti-Human IL-4

Catalog Number: 110702, 110703

Size: 25 tests, 100 tests

Target Name: IL-4, Interleukin-4, MCGF-2 (Mast cell growth factor-2), MFF (Macrophage fusion factor), TCGF-2 (T cell growth factor-2)

Regulatory Status: RUO

Product Details

Clone: MP4-25D2

Application: FC

Reactivity: Human

Format: iF647

Isotype: Rat IgG1

Antibody Type: Monoclonal

Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA

Protein Concentration: Supplied at a lot-specific concentration.

Storage&Handling: The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.

Recommended Usage: For flow cytometric staining, it is recommended to use 5 uL of this reagent per 0.5-1.0 million cells in a 100 µL volume. Optimal reagent performance should be determined by titration for each specific application.

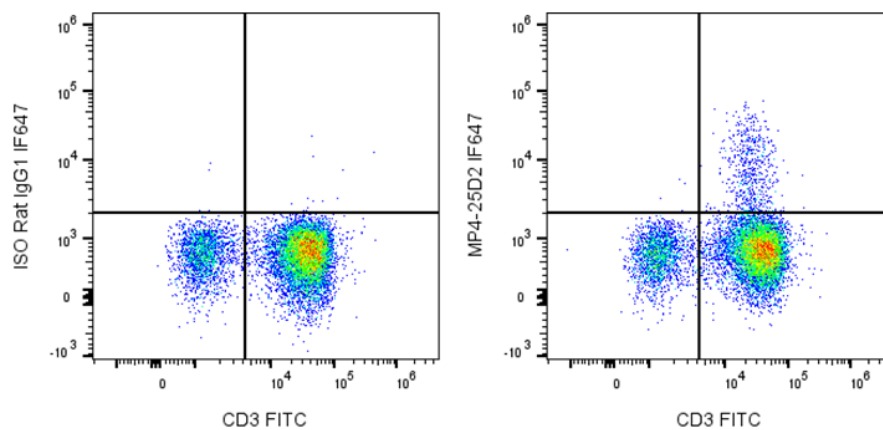
Excitation Laser: Red Laser (633 nm)

Release Date: Nov-25

Background Information

Interleukin-4 (IL-4) is a pleiotropic, immune-modulatory cytokine produced by activated T cells, mast cells, and bone marrow stromal cells. It plays a central role in adaptive immunity, regulating T and B cell proliferation, survival, gene expression, and differentiation. IL-4 directs naive CD4⁺ T cells (Th0) into Th2 cells and promotes immunoglobulin class switching to IgG1 and IgE, while stimulating B-cell activation, T-cell proliferation, and macrophage polarization to M2 phenotype, contributing to allergic inflammation, wound repair, and tissue remodeling. IL-4 signals through two receptor complexes: the Type I receptor (IL-4R α /IL-13R α 2) on hematopoietic cells, critical for Th2 differentiation, and the Type II receptor (IL-4R α /IL-13R α 1) on non-hematopoietic cells, mediating airway hypersensitivity and mucus production. STAT6 is the key transcription factor in IL-4 signaling. Structurally, IL-4 is a compact globular protein stabilized by three disulfide bonds, featuring a four-alpha-helix bundle and a small beta-sheet, forming a stable functional fold.

Product Data



PMA/Ionomycin-stimulated human peripheral blood lymphocytes stained with FITC Anti-Human CD3 and either iF647 Anti-Human IL-4 clone MP4-25D2 (right panel) or an isotype control (left panel).