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# iF488 Anti-Human CD40 Antibody

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| **Catalog Number:** | 119113, 119114 |
| **Size:** | 25 tests, 100 tests |
| **Target Name:** | CD40, BP50, TNFRSF5 |
| **Regulatory Status:** | RUO |

## PRODUCT DETAILS

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| **Clone:** | 040AM1 |
| **Application:** | Flow Cytometry |
| **Reactivity:** | Human |
| **Format:** | iF488 |
| **Isotype:** | Mouse 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 µL 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. iF488 has an excitation max at 491 nm and an emission max at 516 nm. |
| **Excitation Laser:** | Blue Laser (488 nm) |
| **Isotype Control:** | 301409 |

## BACKGROUND INFORMATION

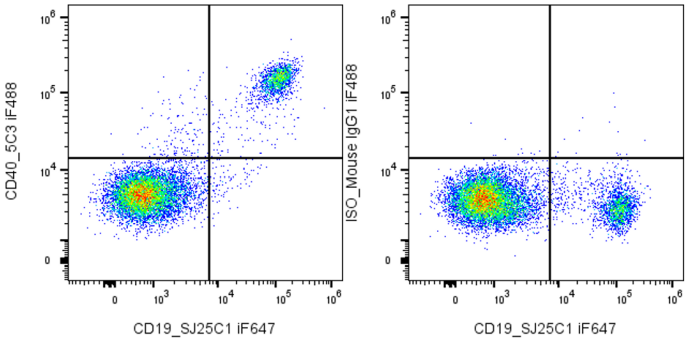
Human CD40 is a costimulatory receptor belonging to the tumor necrosis factor receptor (TNFR) superfamily, expressed on antigen-presenting cells such as B cells, dendritic cells, and macrophages, as well as some non-immune cells. It plays a central role in immune activation by promoting B-cell proliferation, immunoglobulin class switching, and dendritic cell maturation. Structurally, CD40 is a type I transmembrane protein with an extracellular domain composed of cysteine-rich repeats, a single transmembrane region, and a cytoplasmic tail that recruits adaptor proteins (e.g., TRAFs) to initiate downstream signaling pathways.

The primary ligand for CD40 is CD40L (CD154), expressed on activated T cells. Engagement of CD40 by CD40L triggers signaling cascades such as NF-κB activation, enhancing immune responses. Dysregulation of CD40 signaling is implicated in autoimmune diseases, chronic inflammation, and cancer. In oncology, CD40 can have dual roles: promoting anti-tumor immunity through immune activation, but also, in some contexts, supporting tumor cell survival.

Dacetuzumab is a humanized monoclonal antibody targeting CD40. It binds the extracellular domain and acts as a partial agonist,

stimulating CD40 signaling while also mediating antibody-dependent cellular cytotoxicity (ADCC). Clinically, dacetuzumab has been investigated רקיעב in B-cell malignancies such as non-Hodgkin lymphoma. By activating immune cells and directly targeting CD40-expressing tumor cells, it represents an immunomodulatory therapeutic strategy, although its efficacy has been variable and is often explored in combination regimens.

## PRODUCT DATA




Human peripheral blood lymphocytes were stained with iF647 Anti-Human CD19 clone SJ25C1 and iF488 Anti-Human CD40 clone 040AM1 (left) or an isotype control (right).

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