

## PE Anti-Human CD40 Antibody

|                           |                     |
|---------------------------|---------------------|
| <b>Catalog Number:</b>    | 117003, 117004      |
| <b>Size:</b>              | 25 tests, 100 tests |
| <b>Target Name:</b>       | CD40, BP50, TNFRSF5 |
| <b>Regulatory Status:</b> | RUO                 |

### PRODUCT DETAILS

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| <b>Clone:</b>                 | Dacetuzumab                                                                                                                                                                                                                                                                              |
| <b>Application:</b>           | Flow Cytometry                                                                                                                                                                                                                                                                           |
| <b>Reactivity:</b>            | Human                                                                                                                                                                                                                                                                                    |
| <b>Format:</b>                | PE                                                                                                                                                                                                                                                                                       |
| <b>Isotype:</b>               | Human IgG1                                                                                                                                                                                                                                                                               |
| <b>Antibody Type:</b>         | Monoclonal                                                                                                                                                                                                                                                                               |
| <b>Formulation:</b>           | Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA                                                                                                                                                                                                    |
| <b>Protein Concentration:</b> | Supplied at a lot-specific concentration.                                                                                                                                                                                                                                                |
| <b>Storage&amp;Handling:</b>  | The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.                                                                                                                                                     |
| <b>Recommended Usage:</b>     | 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. PE has an excitation max at 565 nm and an emission max at 575 nm. |
| <b>Excitation Laser:</b>      | Blue Laser (488 nm) Green/Yellow laser (532/561nm)                                                                                                                                                                                                                                       |
| <b>Isotype Control:</b>       | 301209                                                                                                                                                                                                                                                                                   |

### BACKGROUND INFORMATION

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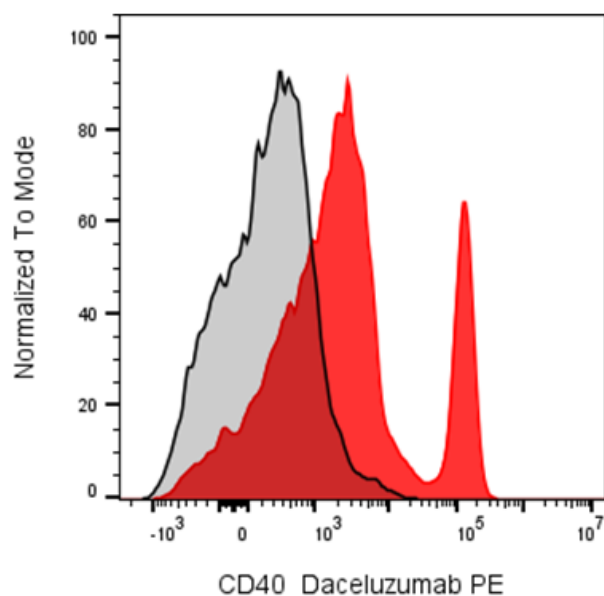
Human CD40 is a costimulatory receptor belonging to the tumor necrosis factor receptor (TNFR) superfamily, expressed on antigen-presenting cells such as B cells, dendritic cells, and macrophages, as well as some non-immune cells. It plays a central role in immune activation by promoting B-cell proliferation, 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 mainly 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 PE Anti-Human CD40 clone Dacetuzumab (color-filled histogram) or an isotype control (gray histogram).

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