

Anti-Human CD40 Antibody

Catalog Number:	119101, 119102
Size:	25 µg, 100 µg
Target Name:	CD40, BP50, TNFRSF5
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	040AM1
Application:	Flow Cytometry
Reactivity:	Human
Format:	Purified
Isotype:	Mouse IgG1
Antibody Type:	Monoclonal
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Protein Concentration:	0.5 mg/mL
Storage & Handling:	The antibody solution should be stored between 2°C and 8°C
Recommended Usage:	For flow cytometric staining, it is recommended to use less than 0.2 µg 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
Isotype Control:	301401

BACKGROUND INFORMATION

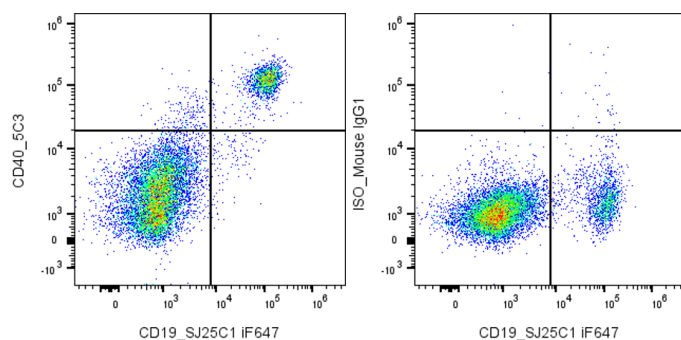
Human CD40 is a costimulatory receptor belonging to the tumor necrosis factor receptor (TNFR) superfamily, expressed on antigen-presenting cells such as B cells, dendritic cells, and macrophages, as well as some non-immune cells. It plays a central role in immune activation by promoting B-cell proliferation, 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 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 Mononuclear Cells was stained with iF647 Anti-Human CD19 clone SJ25C1 and purified Anti-Human CD40 clone 040AM1 (left) or an isotype control (right), followed by PE anti-Mouse IgG.

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