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iF647 Anti-Mouse CD134 (OX-40) Antibody

Catalog Number:	207903, 207904
Size:	25 µg, 100 µg
Target Name:	CD134, OX-40, OX40, TNFRSF4, ACT35
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	OX-86
Application:	Flow Cytometry
Reactivity:	Mouse
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:	0.2 mg/mL
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 less than 0.25 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. iF647 has an excitation max at 656 nm and an emission max at 670 nm.
Excitation Laser:	Red Laser (633 nm)
Isotype Control:	303407

BACKGROUND INFORMATION

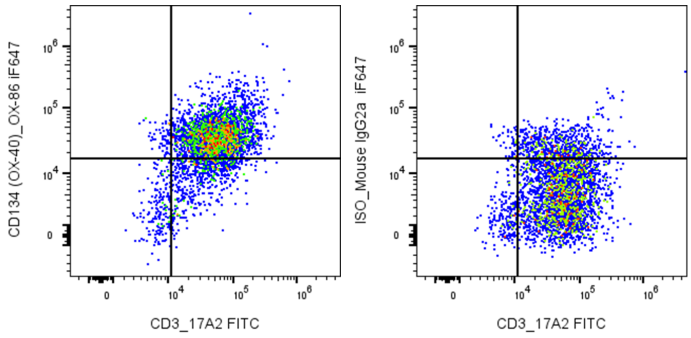
Mouse CD134, also known as OX40 or TNFRSF4, is a member of the tumor necrosis factor receptor (TNFR) superfamily and an important costimulatory receptor on T cells. OX40 is induced following T-cell receptor activation and is expressed predominantly on activated CD4+ and CD8+ T cells. In mice, OX40 is also constitutively expressed on certain regulatory T cells (Tregs). OX40 signaling promotes T-cell proliferation, survival, differentiation, cytokine production, and formation of memory T cells, thereby strengthening and sustaining antigen-specific immune responses.

Mouse OX40 is a type I transmembrane glycoprotein belonging to the TNFR superfamily. It contains an extracellular region with characteristic cysteine-rich domains, a single transmembrane segment, and a cytoplasmic signaling tail. The principal and currently established ligand is OX40 ligand (OX40L), also known as CD252 or TNFSF4. OX40L is a type II transmembrane TNF-superfamily protein expressed primarily by activated antigen-presenting cells, including dendritic cells, macrophages, and B cells. OX40L forms a trimer and engages OX40 to initiate downstream signaling through pathways including NF-κB and PI3K/Akt.

Excessive OX40 signaling can contribute to chronic inflammation and autoimmune disease. In mouse models, the OX40–OX40L pathway has been implicated in experimental autoimmune encephalomyelitis, asthma, colitis, diabetes, arthritis, graft-versus-host disease, and transplant rejection. Blocking OX40 or OX40L can substantially reduce disease severity in several of these models, supporting the pathway as a potential therapeutic target.

Therapeutically, OX40 can be targeted in two opposing ways. Agonistic anti-OX40 antibodies or OX40L-based agonists can enhance T-cell activation and antitumor immunity, making OX40 an attractive target for cancer immunotherapy and vaccine development. Conversely, antagonistic antibodies or OX40L blockade may suppress pathogenic T-cell responses in autoimmune and inflammatory diseases. OX40 agonists, including combinations with immune-checkpoint inhibitors, continue to be investigated clinically, although antitumor efficacy has so far been variable.

PRODUCT DATA



C57BL/6 Mouse splenocytes stimulated with Anti-Mouse CD3/CD28 for 2-days were stained with FITC Anti-Mouse CD3 clone 17A2-M2a and iF647 Anti-Mouse CD134 (OX-40) clone OX-86 (left) or an isotype control (right).

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