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PE Anti-Mouse CD278 (ICOS) Antibody

Catalog Number:	206403, 206404
Size:	50 μg, 200 μg
Target Name:	CD278, ICOS, Inducible Costimulatory molecule
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	7E.17G9
Application:	Flow Cytometry
Reactivity:	Mouse
Format:	PE
Isotype:	Rat IgG2b
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 less than 0.3 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. PE has an excitation max at 565 nm and an emission max at 575 nm.
Excitation Laser:	Blue Laser (488 nm) Green/Yellow laser (532/561nm)
Isotype Control:	303613

BACKGROUND INFORMATION

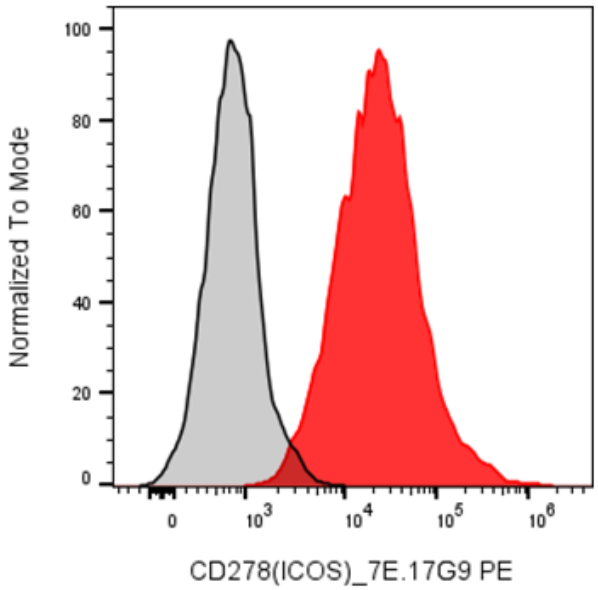
Inducible T-cell co-stimulator (ICOS, CD278) is a costimulatory receptor of the CD28 immunoglobulin superfamily that plays a central role in regulating adaptive immune responses. ICOS is expressed at low levels on resting T cells but is rapidly upregulated following T-cell receptor activation on both CD4+ and CD8+ T cells. It is particularly important for the differentiation and maintenance of T follicular helper (Tfh) cells, which provide essential help to B cells during germinal center formation, antibody affinity maturation, and long-lived humoral immunity. ICOS signaling also promotes the function of regulatory T cells (Tregs), Th2 cells, and certain memory T-cell populations while enhancing cell survival, proliferation, and cytokine secretion through activation of the PI3K-AKT signaling pathway.

Structurally, ICOS is a type I transmembrane glycoprotein composed of a single extracellular immunoglobulin variable (IgV)-like domain, a transmembrane region, and a relatively short cytoplasmic tail containing a conserved YMFM motif that recruits phosphoinositide 3-kinase (PI3K). Unlike CD28, ICOS does not possess motifs that strongly induce IL-2 production but instead

preferentially supports production of cytokines such as IL-4, IL-10, IL-21, and IFN-γ, depending on the T-cell subset.

The only known physiological ligand for ICOS is ICOS ligand (ICOSL, also known as CD275 or B7-H2), which is expressed on antigen-presenting cells including dendritic cells, B cells, monocytes, macrophages, and some non-hematopoietic cells. Binding of ICOS to ICOSL provides a critical second signal that sustains T-cell activation and promotes effective immune responses.

PRODUCT DATA



BALB/c Mouse splenocytes stimulated with Anti-Mouse CD3/CD28 for 2-days were stained with PE Anti-Mouse CD278 (ICOS) clone 7E.17G9 (color-filled histogram) or an isotype control (gray histogram).

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