

## PE Anti-Mouse CD278 (ICOS) Antibody

|                           |                                               |
|---------------------------|-----------------------------------------------|
| <b>Catalog Number:</b>    | 206403, 206404                                |
| <b>Size:</b>              | 25 tests, 100 tests                           |
| <b>Target Name:</b>       | CD278, ICOS, Inducible Costimulatory molecule |
| <b>Regulatory Status:</b> | RUO                                           |

### PRODUCT DETAILS

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| <b>Clone:</b>                 | 7E.17G9                                                                                                                                                                                                                                                                                  |
| <b>Application:</b>           | Flow Cytometry                                                                                                                                                                                                                                                                           |
| <b>Reactivity:</b>            | Mouse                                                                                                                                                                                                                                                                                    |
| <b>Format:</b>                | PE                                                                                                                                                                                                                                                                                       |
| <b>Isotype:</b>               | Rat IgG2b                                                                                                                                                                                                                                                                                |
| <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 uL 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>       | 303613                                                                                                                                                                                                                                                                                   |

### BACKGROUND INFORMATION

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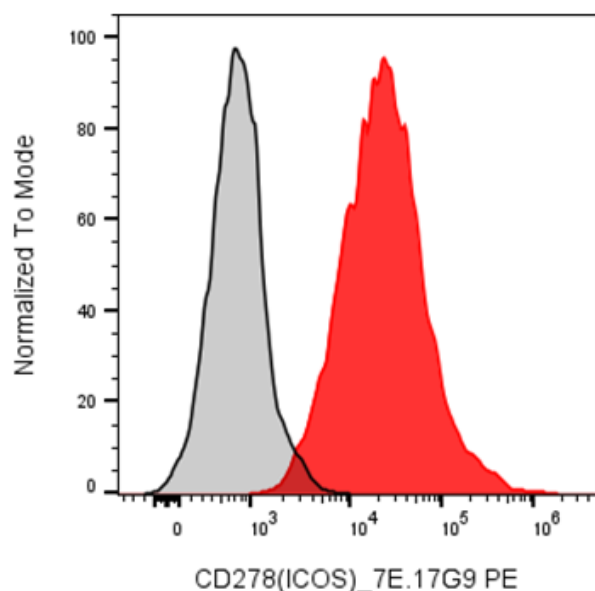
Inducible T-cell co-stimulator (ICOS, CD278) is a costimulatory receptor of the CD28 immunoglobulin superfamily that plays a central role in regulating adaptive immune responses. ICOS is expressed at low levels on resting T cells but is rapidly upregulated following T-cell receptor activation on both 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- $\gamma$ , 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

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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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