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InnoCyto Inc.

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Anti-Mouse CD278 (ICOS) Antibody

Catalog Number:	206401, 206402
Size:	25 μg, 100 μg
Target Name:	CD278, ICOS, Inducible Costimulatory molecule
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	7E.17G9
Application:	Flow Cytometry
Reactivity:	Mouse
Format:	Purified
Isotype:	Rat IgG2b
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
Isotype Control:	303601

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.