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PE Anti-Mouse CD366 (Tim-3) Antibody

Catalog Number:	205803, 205804
Size:	25 µg, 100 µg
Target Name:	CD366, Tim-3, cell immunoglobulin and mucin domain containing 3 protein, hepatitis virus cellular recept
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	RMT3-23
Application:	Flow Cytometry
Reactivity:	Mouse
Format:	PE
Isotype:	Rat IgG2a
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. 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 Controls:	303509
Antibody Family:	Mouse Antibodies
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.
Isotype Control:	303509

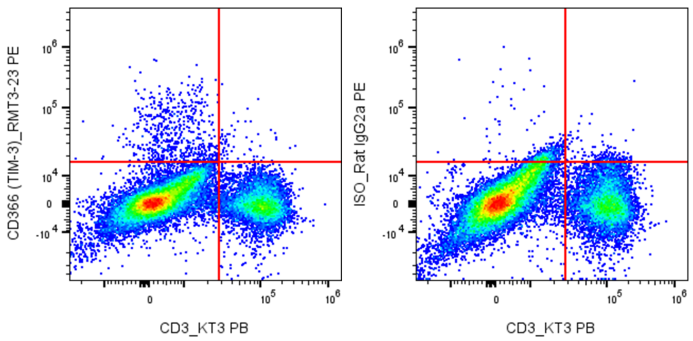
BACKGROUND INFORMATION

Mouse CD366, widely known as T-cell immunoglobulin and mucin domain-containing protein 3 (TIM-3), is a crucial co-inhibitory immune checkpoint receptor encoded by the Havcr2 gene. It is predominantly expressed on differentiated, interferon-gamma-producing Th1 CD4+ T cells, cytotoxic CD8+ T cells, regulatory T cells (Tregs), natural killer (NK) cells, and myeloid populations. As a negative regulator of cell-mediated immunity, mouse CD366 plays a vital role in maintaining peripheral tolerance, limiting tissue pathology, and preventing unchecked inflammation by dampening active T-cell responses.

Structurally, mouse CD366 is a type I transmembrane glycoprotein consisting of an extracellular N-terminal immunoglobulin variable-like (IgV) domain, a mucin-like stalk, a single-pass transmembrane region, and a cytoplasmic tail. Unlike classical checkpoints such as PD-1, its cytoplasmic domain lacks traditional immunoreceptor tyrosine-based inhibitory motifs (ITIMs); instead, it utilizes a conserved cluster of five tyrosine residues that become phosphorylated upon ligand engagement to recruit downstream signaling adaptors. Mouse CD366 interacts with multiple distinct ligands, including galectin-9, phosphatidylserine (PtdSer) on apoptotic cells, high-mobility group box 1 (HMGB1), and carcinoembryonic antigen-related cell adhesion molecule 1 (CEACAM1).

In disease models, dysregulated mouse CD366 signaling is heavily implicated in autoimmunity and oncology. Genetic ablation or antibody blockade of TIM-3 exacerbates Th1-driven autoimmune pathologies, such as experimental autoimmune encephalomyelitis (EAE) and diabetes in mice. Conversely, its sustained upregulation on tumor-infiltrating lymphocytes (TILs)—frequently co-expressed with PD-1—is a hallmark of severe T-cell exhaustion, leading to tumor immune evasion. Consequently, mouse CD366 is widely studied in preclinical research utilizing monoclonal blocking antibodies (such as clone RMT3-23) to reinvigorate exhausted T cells, restore antitumor immunity, and evaluate synergistic effects when combined with other checkpoint inhibitors.

PRODUCT DATA



C57BL/6 Mouse splenocytes were stained with PB Anti-Mouse CD3 clone KT3 and PE Anti-Mouse CD366 (TIM-3) clone RMT3-23 (left) or an isotype control (right).

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