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iF700 Anti-mouse CD8b Antibody

Catalog Number:	204709, 204710
Size:	25 µg, 100 µg
Target Name:	CD8b, Lyt-3, Ly-3
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	YTS156.7.7
Application:	Flow Cytometry
Reactivity:	Mouse
Format:	iF700
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:	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 0.2 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. iF700 has an excitation max at 690 nm and an emission max at 710 nm.
Excitation Laser:	Red Laser (633 nm)
Isotype Controls:	303611
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:	303611

BACKGROUND INFORMATION

Mouse CD8β (CD8b) is a glycoprotein expressed primarily on cytotoxic T lymphocytes, where it forms a heterodimer with CD8α to create the CD8 co-receptor complex. This complex plays a crucial role in T-cell receptor (TCR) signaling by binding to major histocompatibility complex class I (MHC I) molecules on antigen-presenting cells. CD8β enhances the sensitivity and specificity of antigen recognition, supporting effective cytotoxic responses against infected or malignant cells.

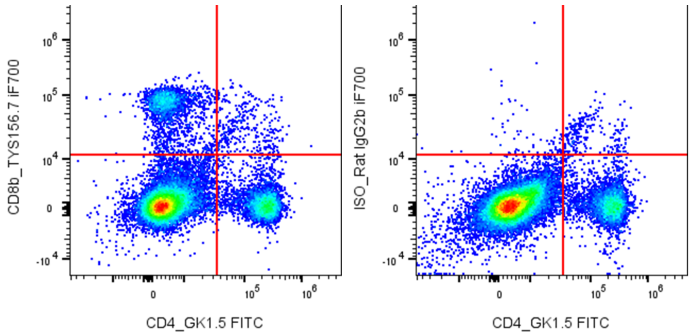
Structurally, CD8β is a type I transmembrane protein with an extracellular immunoglobulin-like domain, a single transmembrane

region, and a short cytoplasmic tail. It pairs with CD8α through disulfide bonding to form the CD8αβ heterodimer, which is the predominant form on conventional T cells. The cytoplasmic domain contributes to signaling by associating indirectly with intracellular kinases such as Lck via CD8α.

The primary ligand for the CD8αβ complex is MHC class I, which presents peptide antigens to CD8+ T cells. CD8β itself contributes to stabilizing this interaction and optimizing TCR engagement rather than independently binding ligands.

In disease models, CD8β-expressing T cells are central to antiviral and anti-tumor immunity but can also contribute to immunopathology and autoimmunity when dysregulated. Therapeutically, CD8β is not directly targeted but is important in T-cell–based immunotherapies, including adoptive T-cell transfer and vaccine strategies, where robust CD8+ T-cell responses are desired.

PRODUCT DATA



C57BL/6 Mouse splenocytes were stained with FITC Anti-Mouse CD4 clone GK1.5 and iF700 Anti-Mouse CD8β clone YTS156.7 (left) or an isotype control (right).

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