Mouse 4-1BB/TNFRSF9/CD137 Antibody

Recombinant Monoclonal Rat IgG_{2B} Clone # 158306R

Catalog Number: MAB9372R

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse 4-1BB in direct ELISAs.
Source	Recombinant Monoclonal Rat IgG_{2B} Clone # 158306R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse 4-1BB Val24-Leu187 Accession # P20334
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.3 to 1.5 µg/mL of this antibody will block 50% of the binding of 2 ng/mL of biotinylated Recombinant Mouse 4-1BB Ligand to immobilized Recombinant Mouse 4-1BB/TNFRSF9 Fc Chimera (Catalog # 937-4B) coated at 1 µg/mL (100 µL/well). At 20 µg/mL, this antibody will block >90% of the binding.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

4-1BB, also known as CD137 and ILA (induced by lymphocyte activation), is a TNF receptor superfamily member and has been designated TNFRSF9. Mouse 4-1BB cDNA encodes a 256 amino acid (aa) residues type I transmembrane protein with a putative 23 aa signal peptide, a 164 aa extracellular domain, a 21 aa transmembrane domain and a 48 aa cytoplasmic region (1-3). A soluble 4-1BB is released from surfaces of cells expressing the transmembrane protein (4). Mouse 4-1BB shares approximately 60% aa sequence identity with its human counterpart. 4-1BB is expressed on activated $CD4^+$ and $CD8^+$ T cells, thymocytes, and NK cells. It is also expressed on monocytes, neutrophils, DCs and eosinophils (5). The ligand for 4-1BB (4-1BBL), also named TNFSF9, belongs to the TNF ligand superfamily. 4-1BBL is predominantly expressed on activated antigen presenting cells (APCs) such as B cells, macrophages and dendritic cells (DCs). It is also expressed on most T and B lymphoma cell lines. In response to 4-1BBL binding, 4-1BB transduce a T cell costimulatory signal in both $CD4^+$ and $CD8^+$ T cells to promote survival and enhance proliferation, cytokine production and effector function. *In vivo,* the costimulatory activity of 4-1BB has been shown to be important in graft-v s-host disease and antiviral CTL responses. On dendritic cells, 4-1BB is a DC-activating molecules that enhances cytokine production and upregulates expression of B7-1 and B7-2 costimulatory molecules, resulting in an improved ability to stimulate T cell responses (1-5).

References:

1. Goodwin, R.G. *et al.* (1993) Eur. J. Immunol. **23**:2631.
2. Alderson, M.R. *et al.* (1994) Eur. J. Immunol. **24**:2219.
3. Kwon, B.S. and S.M. Weissman (1989) Proc. Nat. Acad. Sci. USA **86**:1963.
4. Wilcox, R.A. *et al.* (2002) J. Immunol. **168**:4262.
5. Kwon, B., H.W. Lee and B.S. Kwon, 2002, TRENDS in Immunology **23**:378.

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