Mouse B7-2/CD86 Antibody

Monoclonal Rat IgG_{2A} Clone # GL1

Catalog Number: MAB741

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse B7-2/CD86 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant mouse B7-1, recombinant human (rh) B7-1 or rhB7-2 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # GL1
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	LPS-activated mouse B cells
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.

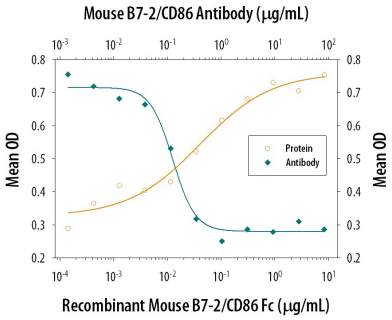
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Mouse B7-2/CD86 Fc Chimera (Catalog # 741-B2)
Flow Cytometry	2.5 µg/10^6 cells	Mouse splenocytes
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize B7-2/CD86-induced IL-2 secretion in the Jurkat human acute T cell leukemia cell line. Linsley, P. *et al.* (1990) Proc. Natl. Acad. Sci. **87**:5031. The Neutralization Dose (ND_{50}) is typically 0.05-0.25 µg/mL in the presence of 0.5 µg/mL Recombinant Mouse B7-2/CD86 Fc Chimera and 10 µg/mL PHA.	

DATA

Neutralization



IL-2 secretion Induced by B7-2/CD86 and Neutralization by Mouse B7-2/CD86 Antibody. Recombinant Mouse B7-2/CD86 Fc Chimera (Catalog # 741-B2) co-stimulates IL-2 secretion in the Jurkat human acute T cell leukemia cell line in the presence of PHA in a dose-dependent manner (orange line), as measured by the Human IL-2 Quantikine ELISA Kit (Catalog # D2050). IL-2 secretion elicited by Recombinant Mouse B7-2/CD86 Fc Chimera (0.5 µg/mL) and PHA (10 µg/mL) is neutralized (green line) by increasing concentrations of Rat Anti-Mouse B7-2/CD86 Monoclonal Antibody (Catalog # MAB741). The ND_{50} is typically 0.05-0.25 µg/mL.

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.

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BACKGROUND

B7-1 and B7-2, together with their receptors CD28 and CTLA-4, constitute one of the dominant costimulatory pathways that regulate T- and B-cell responses. Although both CTLA-4 and CD28 can bind to the same ligands, CTLA-4 binds to B7-1 and B7-2 with a 20-100 fold higher affinity than CD28 and is involved in the down-regulation of the immune response. B7-1 is expressed on activated B cells, activated T cells, and macrophages. B7-2 is constitutively expressed on interdigitating dendritic cells, Langerhans cells, peripheral blood dendritic cells, memory B cells, and germinal center B cells. Additionally, B7-2 is expressed at low levels on monocytes and can be up-regulated through interferon γ. B7-1 and B7-2 are both members of the immunoglobulin superfamily. Mouse B7-2 is a 309 amino acid (aa) protein containing a putative 23 aa signal peptide, a 221 aa extracellular domain, a 21 aa transmembrane domain, and a 44 aa cytoplasmic domain. Mouse B7-2 and B7-1 share 28% amino acid identity. Mouse and human B7-2 share 50% amino acid identity. However, it has been observed that both human and mouse B7-1 and B7-2 can bind to either human or mouse CD28 and CTLA-4, suggesting that there are conserved amino acids which form the B7-1/B7-2/CD28/CTLA-4 critical binding sites.

References:

1. Azuma, M. *et al.* (1993) Nature **366**:76.
2. Freeman, G.J. *et al.* (1993) Science **262**:909.
3. Freeman, G. *et al.* (1991) J. Exp. Med. **174**:625.
4. Selvakumar, A. *et al.* (1993) Immunogenetics **38**:292.
5. Chen, C. *et al.* (1994) J. Immunol. **152**:4929.
6. Freeman, G.J. *et al.* (1993) J. Exp. Med. **178**:2185.

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