Mouse PD-L2/B7-DC Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1022

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse PD-L2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 20% cross-reactivity with recombinant human PD-L2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse PD-L2 Leu20-Arg219 Accession # Q9WUL5
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.

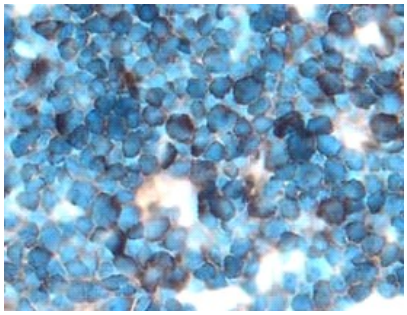
APPLICATIONS

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	0.1 µg/mL	Recombinant Mouse PD-L2 Fc Chimera (Catalog # 1022-PL)
Flow Cytometry	2.5 µg/10^6 cells	RAW 264.7 mouse monocyte/macrophage cell line treated with LPS
Immunohistochemistry	5-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Blockade of Receptor-ligand Interaction	In a functional ELISA, 1-4 µg/mL of this antibody will block 50% of the binding of 1 µg/mL of Recombinant Mouse PD-1 (Catalog # 1021-PD) to immobilized Recombinant Mouse PD-L2 Fc Chimera (Catalog # 1022-PL) coated at 1 µg/mL (100 µL/well). At 30 µg/mL, this antibody will block >90% of the binding.	

DATA

Immunohistochemistry



PD-L2 in Mouse Thymus. PD-L2 was detected in perfusion fixed frozen sections of mouse thymus using 15 µg/mL Goat Anti-Mouse PD-L2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1022) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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

Mouse Programmed Death Ligand 2 (PD-L2), also named B7DC and butyrophilin-like protein, is a member of the B7 family of proteins that provide signals for regulating T-cell activation and tolerance (1-4). Other family members include B7-1, B7-2, B7-H2, PD-L1 (B7-H1), and B7-H3. B7 proteins are immunoglobulin (Ig) superfamily members with extracellular Ig-V-like and Ig-C-like domains and short cytoplasmic domains. Among the family members, they share from 20-40% amino acid (aa) sequence identity. The cloned mouse PD-L2 cDNA encodes a 247 aa type I membrane precursor protein with a putative 20 aa signal peptide, a 199 aa extracellular region containing one V-like and one C-like Ig domain, a 23 aa transmembrane region, and only a 5 aa cytoplasmic domain. The extracellular domains of mouse and human PD-L2 share approximately 72% aa sequence identity. PD-L2 is one of two ligands for programmed death-1 (PD-1), a member of the CD28 family of immunoreceptors. The other identified ligand is PD-L1. Mouse PD-L1 and PD-L2 share approximately 34% aa sequence identity and have similar functions. PD-L2 is constitutively expressed in lymphoid and non-lymphoid organs (1-4). The expression of PD-L2 is detected on dendritic cells, thymic epithelial cells and IFN-γ treated monocytes. PD-L2 expression is also upregulated in a variety of tumor cell lines. On previously activated T cells, PD-L2 interaction with PD-1 inhibits TCR-mediated proliferation and cytokine production, suggesting an inhibitory role in regulating immune responses. In contrast, a co-stimulatory function for the PD-1 ligands on resting T cells has also been reported.

References:

1. Latchman, Y. *et al.* (2001) Nature Immun. **2**:261.
2. Tseng, B.S-Y. *et al.* (2001) J. Exp. Med. **193**:839.
3. Sharpe, A.H. and G.J. Freeman (2002) Nat. Rev. Immunol. **2**:116.
4. Coyle, A. and J. Gutierrez-Ramos (2001) Nat. Immunol. **2**:203.

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