

CD273 (B7-DC) Monoclonal Antibody (122), PE

Catalog NumberA18437

Product data sheet

Details		Tested Applications	Dilution *
Size	50 µg	Flow Cytometry (Flow)	Assay-dependent
Host/Isotope	Rat / IgG2a, kappa	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Class	Monoclonal		
Type	Antibody		
Clone	122		
Immunogen	Mouse CD273		
Conjugate	PE		
Form	Liquid		
Concentration	0.2 mg/mL		
Storage Conditions	4° C		

Background/Target Information

Programmed death-ligand 2 (PD-L2), or B7-DC, is a member of the B7 ligand family within the immunoglobulin superfamily that, along with programmed death-ligand 1 (PD-L1), acts as a ligand for programmed cell death protein 1 (PD-1). Though expressed primarily in dendritic cells, PD-L2 expression can be induced on a wide variety of immune and non-immune cells depending on the microenvironment. PD-L2 expression is particularly upregulated in the presence of Th2 cytokine, IL-4, as well as Th1 cytokines, TNF-alpha and IFN-gamma to a lesser degree. While generally expressed at lower levels compared to PD-L1, PD-L2 demonstrates a 2 to 6 times higher relative affinity to PD-1 than PD-L1. PD-1 and its ligands are referred to as inhibitory immune checkpoint molecules in that they provide useful negative feedback during physiological homeostasis. Ligation of PD-L2 or PD-L1 inhibits activation, proliferation, and cytokine secretion (e.g. IFN-gamma, IL-10) in T cells, ultimately dampening immune response. Conversely, studies have shown that PD-L2 can also stimulate T cell proliferation and cytokine production, even in PD-1-deficient T cells, suggesting additional receptors. Recent studies have concluded that PD-L2 also binds to a second receptor, repulsive guidance molecule b (RGMb), which was originally identified as a receptor for bone morphogenetic proteins (BMPs). RGMb is expressed in the central nervous system, as well as in macrophages, however, its role in immunity is only beginning to emerge. Interaction between PD-L2 and RGMb regulates the development of respiratory tolerance in the lung through BMP and/or neogenin signaling pathways. The naturally occurring human PD-L2 monomer consists of a 201-amino-acid extracellular domain, a 21-amino-acid transmembrane domain, and a 32-amino-acid cytoplasmic domain.

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