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APC Anti-Human CD274 (PD-L1) Antibody

Catalog Number:	120007, 120008
Size:	25 tests, 100 tests
Target Name:	CD274, PD-L1, B7-H1, Programmed cell death ligand 1, B7 homolog 1
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	29E.2A3
Reactivity:	Human
Format:	APC
Isotype:	Mouse IgG2b
Antibody Type:	Monoclonal
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA
Protein Concentration:	Supplied at a lot-specific concentration.
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 5 µL 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. APC has an excitation max at 650 nm and an emission max at 660 nm.
Excitation Laser:	Red Laser (633 nm)
Isotype Controls:	301621
Antibody Family:	Human 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:	301621

BACKGROUND INFORMATION

Human programmed death-ligand 1 (PD-L1), also known as CD274 or B7-H1, is an immune checkpoint protein that plays a central role in regulating T-cell activity and maintaining peripheral immune tolerance. PD-L1 is expressed on antigen-presenting cells, including dendritic cells and macrophages, and can be induced on many other cell types by inflammatory cytokines such as interferon-γ. It is frequently upregulated by tumor cells as a mechanism of immune evasion.

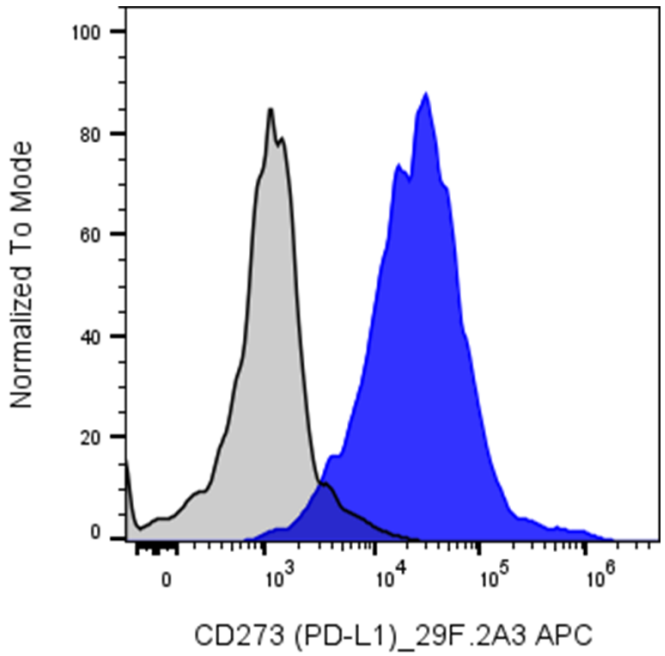
PD-L1 is a type I transmembrane glycoprotein of approximately 290 amino acids. Its extracellular region contains an N-terminal immunoglobulin variable (IgV)-like domain and a membrane-proximal IgC2-like domain, followed by a single transmembrane helix and a short cytoplasmic tail of approximately 30 amino acids. The IgV domain contains the primary binding interface for PD-1.

Structural studies show that PD-L1 engages PD-1 through an extensive protein-protein interface involving hydrophobic and polar interactions.

The principal receptor for PD-L1 is programmed cell death protein 1 (PD-1/CD279), expressed mainly on activated T cells and other immune cells. PD-L1 can also interact with B7-1 (CD80), including interactions occurring in cis on antigen-presenting cells. Engagement of PD-1 by PD-L1 suppresses T-cell receptor signaling, proliferation, cytokine production, and cytotoxic activity, thereby limiting excessive immune responses.

Dysregulated PD-L1 expression contributes to immune suppression in cancer and has been associated with chronic infections and inflammatory diseases. Therapeutically, the PD-1/PD-L1 pathway is one of the most important targets in cancer immunotherapy. Monoclonal antibodies blocking PD-1 or PD-L1 can restore antitumor T-cell activity and have demonstrated substantial clinical benefit across multiple cancers. PD-L1 is therefore both a therapeutic target and an important biomarker for patient selection in certain immunotherapy settings.

PRODUCT DATA



Human peripheral blood mononuclear cells stimulated with Anti-Human CD3/CD28 for 3-days were stained with APC Anti-Human CD274 (PD-L1) clone 29E.2A3 (color-filled histogram) or an isotype control (gray histogram).

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