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# APC Anti-Human CD274 (PD-L1) Antibody

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| **Catalog Number:** | 119905, 119906 |
| **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

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| **Clone:** | Atezolizumab |
| **Application:** | Flow Cytometry |
| **Reactivity:** | Human |
| **Format:** | APC |
| **Isotype:** | Human IgG1 |
| **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. FITC has an excitation max at 493 nm and an emission max at 525 nm. |
| **Excitation Laser:** | Red Laser (633 nm) |
| **Isotype Control:** | 301213 |

## 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.

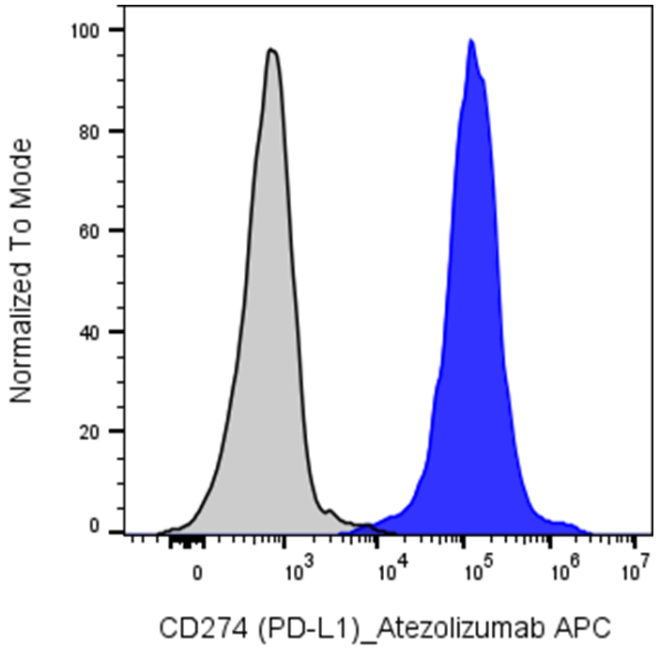
PD-L1 is a type I transmembrane glycoprotein of approximately 290 amino acids. Its extracellular region contains an N-terminal immunoglobulin variable (IgV)-like domain and a membrane-proximal IgC2-like domain, followed by a single transmembrane helix and a short cytoplasmic tail of approximately 30 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 lymphocytes stimulated with Anti-Human CD3/CD28 for 3-days were stained with APC Anti-Human CD274 (PD-L1) biosimilar Atezolizumab (color-filled histogram) or an isotype control (gray histogram).

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