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InnoCyto Inc.

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Anti-Human CD274 (PD-L1) Antibody

Catalog Number:	120001, 120002
Size:	25 µg, 100 µg
Target Name:	CD274, PD-L1, B7-H1, Programmed cell death ligand 1, B7 homolog 1
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	29E.2A3
Application:	Flow Cytometry
Reactivity:	Human
Format:	Purified
Isotype:	Mouse IgG2b
Antibody Type:	Monoclonal
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Protein Concentration:	0.5 mg/mL
Storage&Handling:	The antibody solution should be stored between 2°C and 8°C
Isotype Controls:	301601
Antibody Family:	Human Antibodies
Storage & Handling:	The antibody solution should be stored between 2°C and 8°C
Isotype Control:	301601

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.

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