

**DESCRIPTION**

<b>Source</b>	Mouse myeloma cell line, NS0-derived human PD-L1/B7-H1 protein		
	Human PD-L1 (Phe19-Thr239) Accession # Q9NZQ7.1	DIEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Phe19		
<b>Structure / Form</b>	Disulfide-linked homodimer Labeled with Alexa Fluor® 488 via amines Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm		
<b>Predicted Molecular Mass</b>	52 kDa (monomer)		

**SPECIFICATIONS**

<b>SDS-PAGE</b>	70-75 kDa, under reducing conditions.
<b>Activity</b>	Measured by flow cytometry for its ability to bind anti-human PD-L1/B7-H1 Monoclonal Antibody conjugated beads. The concentration of Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 488 (Catalog # AFG156) that produces 50% of the binding response is 15.0-150 ng/mL.
<b>Endotoxin Level</b>	<1.0 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Supplied as a 0.2 µm filtered solution in PBS and NaCl with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Shipping</b>	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b>

**DATA**

<p><b>Flow Cytometry</b></p>	<p><b>Flow cytometry analysis for Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 488 staining on anti-human PD-L1/B7-H1 Monoclonal Antibody conjugated beads.</b> Streptavidin coated beads conjugated to biotinylated anti-human PD-L1/B7-H1 Monoclonal Antibody were stained with the indicated concentrations of Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 488 (Catalog # AFG156).</p>	<p><b>SDS-PAGE</b></p>	<p><b>Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 488 Protein SDS-PAGE.</b> 2 µg/lane of Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 488 Protein (Catalog # AFG156) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 70-75 kDa, and 140-150 kDa, respectively.</p>
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#### BACKGROUND

PD-L1, also known as B7-H1, PDL1, is one of the ligands for PD-1 and plays a critical role in the regulation of T cell immunity (1-6). The PD-1:PD-L1 interaction initiates a negative signaling cascade in T cells leading to inhibition of T cell activation (2, 5, 7, 8). PD-L1 provides a molecular stop signal to the adaptive immune system helping to distinguish between self and foreign antigens. PD-L1 also plays a role in the development of immune tolerance by promoting T cell anergy (1, 5) and enhancing regulatory T cell development (8). In addition, PD-L1 favors the development of anti-inflammatory IL-10 and IL-22 producing dendritic cells (7, 9) and inhibits the development of Th17 cells (8). Many cancers exhibit upregulated PD-L1 protein expression, and several cancers with high levels of PD-L1 have been associated with increased tumor aggressiveness and poor prognosis. Using new therapeutics that block the PD-L1:PD-1 interaction has proven successful in the clinic for many cancer types and has sparked great interest in the field of cancer immunotherapy.

The PD-L1 protein is an approximately 65 kDa transmembrane glycoprotein belonging to the B7 family of immune regulatory molecules (10). Mature human PD-L1 protein consists of a 220 amino acid (aa) extracellular domain (ECD) with two immunoglobulin-like domains, a 21 aa transmembrane segment, and a 31 aa cytoplasmic domain (11). Within the ECD, human PD-L1 shares 73% and 74% aa sequence identity with mouse and rat B7-H1, respectively. Alternative splicing generates additional isoforms that either lack the first Ig-like domain or are truncated within the second Ig-like domain (12). PD-L1 is expressed on inflammatory-activated immune cells including macrophages, T cells, and B cells (10, 13, 14, 16) keratinocytes (9, 11), endothelial and intestinal epithelial cells (2, 9), as well as a variety of carcinomas and melanoma (12, 16).

#### References:

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