

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human PD-L1/B7-H1 protein		
	Human B7-H1 (Phe19-Thr239) Accession # Q9NZQ7	HHHHHH	Avi-tag
	N-terminus		C-terminus
N-terminal Sequence	Phe19		
Analysis			
Structure / Form	Biotinylated via Avi-tag		
Predicted Molecular Mass	28 kDa		

SPECIFICATIONS

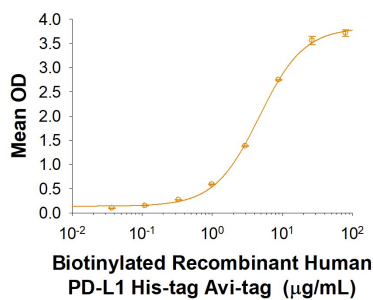
SDS-PAGE	35-41 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human PD-1 Fc Chimera (Catalog # 1086-PD) is immobilized at 2 µg/mL (100 µL/well), Biotinylated Recombinant Human PD-L1 His-tag Avi-tag protein binds with an ED ₅₀ of 2-12 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

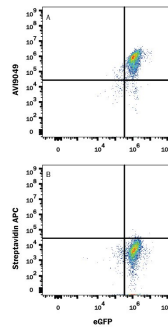
DATA

Binding Activity

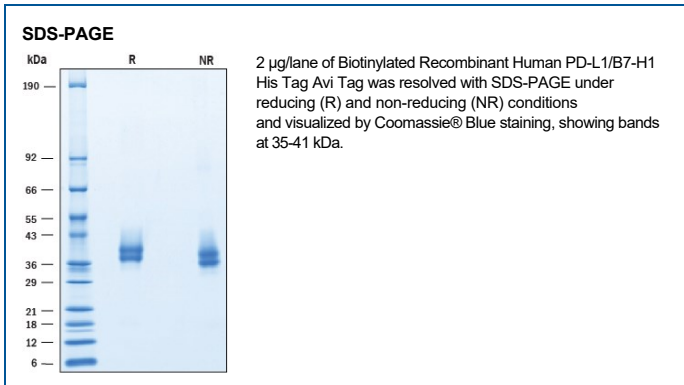


When Recombinant Human PD-1 Fc Chimera (Catalog # 1086-PD) is immobilized at 2 µg/mL, Biotinylated Recombinant Human PD-L1 His-tag Avi-tag protein binds with an ED₅₀ of 2-12 µg/mL.

Flow Cytometry



In a functional flow cytometry test, (A) Recombinant Human PD-L1/B7-H1 His-tag Avi-tag Protein (Catalog # AVI9049) binds to HEK293 human embryonic kidney cell line transfected with recombinant human PD-1 and EGFP. Ligand binding was detected by staining cells with APC-conjugated Streptavidin (Catalog # F0050), which does not stain the cells in the absence of recombinant protein (B).



BACKGROUND

B7-H1, also known as PD-L1 and CD274, is an approximately 65-kDa transmembrane glycoprotein in the B7 family of immune regulatory molecules (1). Mature human B7-H1 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 (2). Within the ECD, human B7-H1 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 (3). B7-H1 is expressed on inflammatory-activated immune cells including macrophages, T cells, and B cells (4-7), keratinocytes (8, 9), endothelial and intestinal epithelial cells (8, 10), as well as a variety of carcinomas and melanoma (11, 12). B7-H1 binds to T cell B7-1/CD80 and PD-1 (7, 8, 12-15). It suppresses T cell activation and proliferation (5, 8, 14, 16) and induces the apoptosis of activated T cells (11). It plays a role in the development of immune tolerance by promoting T cell anergy (7, 14) and enhancing regulatory T cell development (16). B7-H1 favors the development of anti-inflammatory IL-10 and IL-22 producing dendritic cells (5, 10) and inhibits the development of Th17 cells (16). In cancer, B7-H1 provides resistance to T cell mediated lysis, enhances EMT, and enhances the tumorigenic function of Th22 cells (6, 9, 12, 15).

References:

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