

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human PD-L1/B7-H1 protein			
	Human PD-L1 (Phe19-Thr239) Accession # Q9NZQ7-1	IEGRMD	Human IgG ₁ (Pro100-Lys330)	Avi-tag
	N-terminus		C-terminus	
N-terminal Sequence Analysis	Phe19			
Structure / Form	Disulfide-linked homodimer, Biotinylated via Avi-tag			
Predicted Molecular Mass	54 kDa			

SPECIFICATIONS

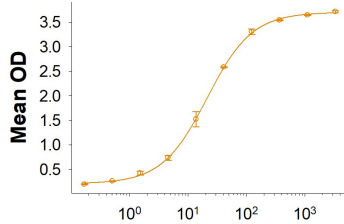
SDS-PAGE	70-80 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human PD-1 Fc Chimera (Catalog # 1086-PD) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human PD-L1/B7-H1 Fc Chimera Avi-tag (Catalog # AVI156) binds with an ED ₅₀ of 8-48 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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 to -70 °C under sterile conditions after reconstitution.

DATA

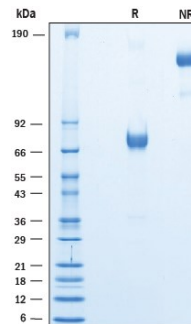
Binding Activity



Biotinylated Recombinant Human PD-L1/B7-H1 Fc Chimera Avi-tag (ng/mL)

When Recombinant Human PD-1 Fc Chimera (Catalog # [1086-PD](#)) is coated at 1 µg/mL, Biotinylated Recombinant Human PD-L1/B7-H1 Fc Chimera Avi-tag (Catalog # AVI156) binds with an ED₅₀ of 8-48 ng/mL.

SDS-PAGE



2 µg/lane of Biotinylated Recombinant Human PD-L1 Fc Chimera Avi-tag (Catalog # AVI156) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 70-80 kDa and 140-160 kDa, respectively.

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:

1. Ceeraz, S. *et al.* (2013) Trends Immunol. **34**:556.
2. Dong, H. *et al.* (1999) Nat. Med. **5**:1365.
3. Frigola, X. *et al.* (2011) Clin. Cancer Res. **17**:1915.
4. Tamura, H. *et al.* (2001) Blood **97**:1809.
5. Chen, L. *et al.* (2007) J. Immunol. **178**:6634.
6. Kuang, D.-M. *et al.* (2014) J. Clin. Invest. **124**:4657.
7. Tsushima, F. *et al.* (2007) Blood **110**:180.
8. Mazanet, M.M. and C.C.W. Hughes (2002) J. Immunol. **169**:3581.
9. Cao, Y. *et al.* (2010) Cancer Res. **71**:1235.
10. Scanduzzi, L. *et al.* (2014) Cell Rep. **6**:625.
11. Dong, H. *et al.* (2002) Nat. Med. **8**:793.
12. Azuma, T. *et al.* (2008) Blood **111**:3635.
13. Butte, M.J. *et al.* (2008) Mol. Immunol. **45**:3567.
14. Park, J.-J. *et al.* (2010) Blood **116**:1291.
15. Ritprajak, P. *et al.* (2010) J. Immunol. **184**:4918.
16. Herold, M. *et al.* (2015) J. Immunol. **195**:3584.