DESCRIPTION

**Source**
Human embryonic kidney cell, HEK293-derived human PD-L1/B7-H1 protein

<table>
<thead>
<tr>
<th><strong>Human B7-H1</strong>&lt;br&gt;(Phe19-Thr239)</th>
<th><strong>HHHHHH</strong></th>
<th><strong>Avi-tag</strong></th>
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</table>

**N-terminal Sequence**
Phe19

**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\textsubscript{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**
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 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 ED\textsubscript{50} 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).
SDS-PAGE

2 μg/lane of Biotinylated Recombinant Human PD-L1/B7-H1 His Tag Avi Tag was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 35-41 kDa.

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: