Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 647

Catalog Number: AFR156

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived human PD-L1/B7-H1 protein

Human PD-L1 (Phe19-Thr239) Accession # Q9NZQ7.1	DIEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis

Phe19

Structure / Form

Disulfide-linked homodimer
Labeled with Alexa Fluor® 647
Excitation Wavelength: 650 nm
Emission Wavelength: 668 nm

Predicted Molecular Mass

52 kDa (monomer)

SPECIFICATIONS

SDS-PAGE

70-75 kDa, under reducing conditions.

Activity

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® 647 (Catalog # AFR156) that produces 50% of the binding response is 1.00-15.0 ng/mL.

Endotoxin Level

<1.0 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

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

Shipping

The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.

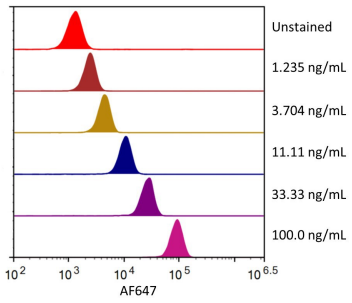
Stability & Storage

Protect from light. Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 6 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after opening.
- 3 months, -20 to -70 °C under sterile conditions after opening.

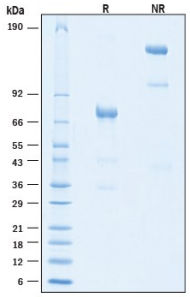
DATA

Flow Cytometry



Flow cytometry analysis for Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 647 staining on anti-human PD-L1/B7-H1 Monoclonal Antibody conjugated beads. 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® 647 (Catalog # AFR156).

SDS-PAGE



Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 647 Protein SDS-PAGE. 2 µg/lane of Recombinant Human PD-L1/B7-H1 Fc Chimera Alexa Fluor® 647 Protein (Catalog # AFR156) 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.

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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:

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

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