Biotinylated Recombinant Human PD-L2/B7-DC Fc Chimera

Catalog Number: BT1224

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived human PD-L2/B7-DC protein

Human PD-L2 (Leu20-Pro219) Accession # Q9BQ51	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

Biotinylated via sugars

N-terminal Sequence Analysis	Leu20
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	49 kDa (unlabeled)

SPECIFICATIONS

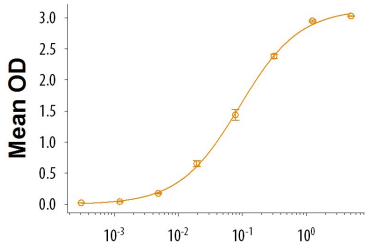
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human PD-1 Fc Chimera (Catalog # 1086-PD) is immobilized at 100 ng/mL, 100 µL/well, the concentration of Biotinylated Recombinant PD-L2 Fc Chimera that produces 50% of the optimal binding response is 0.04-0.24 µg/mL.
Endotoxin 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 250 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 to -70 °C under sterile conditions after reconstitution.

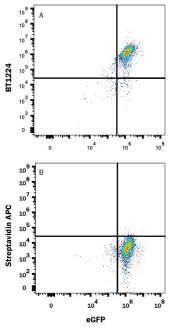
DATA

Binding Activity



When Recombinant Human PD-1 Fc Chimera Recombinant Human PD-1 Fc Chimera (Catalog # 1086-PD) is coated at 0.1 µg/mL, Biotinylated Recombinant Human PD-L2 Fc Chimera (Catalog # BT1224) binds with an ED_{50} of 0.04-0.24 µg/mL.

Flow Cytometry



In a functional flow cytometry test, (A) Recombinant Human PD-L2 Fc Biotinylated Protein (Catalog # BT1224) 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).

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BACKGROUND

Programmed Death Ligand 2 (PD-L2), also known as B7-DC and butyrophilin-like protein, is a member of the B7 family of proteins that provide signals for regulating T-cell activation and tolerance (1). Mature human PD-L2 consists of a 201 amino acid (aa) extracellular domain (ECD) with one V-like and one C-like Ig domain, a 21 aa transmembrane segment, and a 32 aa cytoplasmic domain (2, 3). Within the ECD, mouse and human PD-L2 share 72% aa sequence identity. Alternative splicing generates additional isoforms that lack the second Ig-like domain and may be substituted and truncated following the first Ig-like domain (4). PD-L2 is expressed on dendritic cells, subsets of activated $CD4^+$ and $CD8^+$ T cells, and memory B cells that differentiate into plasma cells (3, 5, 6). At inflammatory sites such as rheumatoid arthritis, allergen exposure, and virus infection, PD-L2 is up-regulated on synoviocytes, infiltrating macrophages, dendritic cells, and airway epithelial cells (7-11). PD-L2, along with B7-H1/PD-L1, binds to T cell PD-1 where it promotes IFN-γ production and CD40 Ligand up-regulation while inhibiting IL-4 production (2, 3, 12, 13). In addition, PD-L2 binds to RGM-B on macrophages and alveolar epithelial cells, supporting respiratory immune tolerance (14). In asthma, PD-L2 suppresses IL-5 and IL-13 production, promotes IL-12 production by dendritic cells, and supports allergen-induced airway hyper-responsiveness and mucus production (9, 11).

References:

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