

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived rat PD-L2/B7-DC protein		
	Rat PD-L2 (Leu20-Arg219) Accession # NP_001101052.2	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Leu20		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	49 kDa		

SPECIFICATIONS

SDS-PAGE	62-73 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Rat PD-L2/B7-DC Fc Chimera is coated at 1 µg/mL (100 µL/well), the concentration of Recombinant Rat PD-1 Fc Chimera (Catalog # 9814-PD) that produces 50% optimal binding response is 0.01-0.08 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 Tris, NaCl and EDTA with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in water.
Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<ul style="list-style-type: none"> • 12 months from date of receipt, ≤ -20 °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 Rat PD-L2/B7-DC Fc Chimera (Catalog # 9994-PL) is coated at 1 µg/mL (100 µL/well), Recombinant Rat PD-1 Fc Chimera (Catalog # 9814-PD) binds with an ED₅₀ of 0.01-0.08 µg/mL.

SDS-PAGE

2 µg/lane of Recombinant Rat PD-L2/B7-DC was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 62-73 kDa and 120-150 kDa, respectively.

BACKGROUND

Programmed Death Ligand 2 (PD-L2), also known as Butyrophilin B7-DC, is a member of the B7 family of proteins that provide signals for regulating T-cell activation and tolerance (1). In humans, the mature 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, rat PD-L2 shares 71% and 95% aa sequence identity with human and mouse PD-L2, respectively. 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). 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 (6-10). PD-L2, along with B7-H1/PD-L1, binds to T cell PD-1 where it promotes IFN-gamma production and CD40 Ligand up-regulation while inhibiting IL-4 production (2, 3, 11, 12). In addition, PD-L2 binds to RGM-B on macrophages and alveolar epithelial cells, supporting respiratory immune tolerance (13). 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 (8, 10).

References:

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