Product Name: Bioactive, Rhesus macaque CD274 Protein Dimer, His Tag

Product Code: CSP-25292-01

FOR RESEARCH USE ONLY (RUO)

Protein Name: CD274

Alternate Name(s): cluster of differentiation 274, CD274, B7-H, B7 homolog 1, B7H1, PDCD1L1, PDCD1LG1, PDL1, CD274 molecule, Programmed cell death ligand 1, hPD-L1

Expression Host
HEK293T

Amino Acid Range
F19-R238

Protein Construct
CD274 dimer protein contains a CD274 extracellular domain (UniProt# G7PSE7) fused with a proprietary dimer motif followed by a His tag at the C-terminus. Expressed in HEK293T cell line.

SDS-Page Molecular Weight
67 kDa. The migration range of the dimer protein with glycosylation under non-reducing condition is ~120 kDa on SDS PAGE.

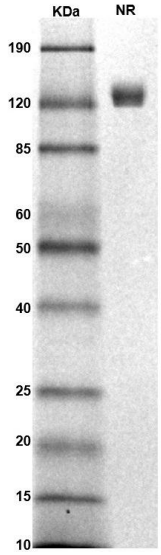
Purity
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

Formulation
0.22µm filtered PBS, pH 7.4

Stability & Storage
-80^{0}C

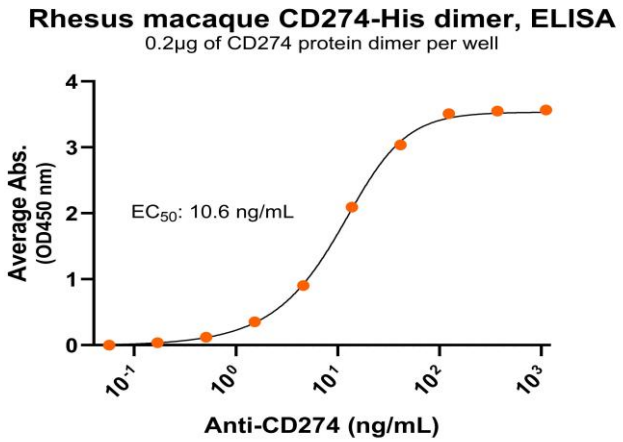
Shipping Conditions
Frozen Dry Ice

SDS-PAGE



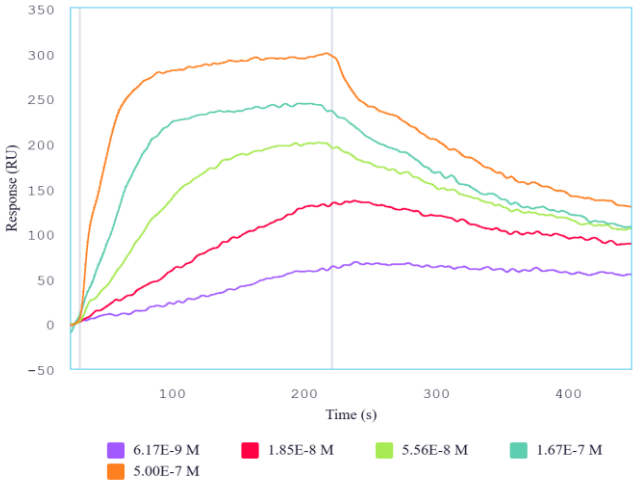
MW: Molecular Weight marker reduced condition
NR: CD274 dimer under non-reduced condition
The migration range of the dimer protein with glycosylation under non-reducing condition is ~120 kDa on SDS PAGE.

Antibody Binding



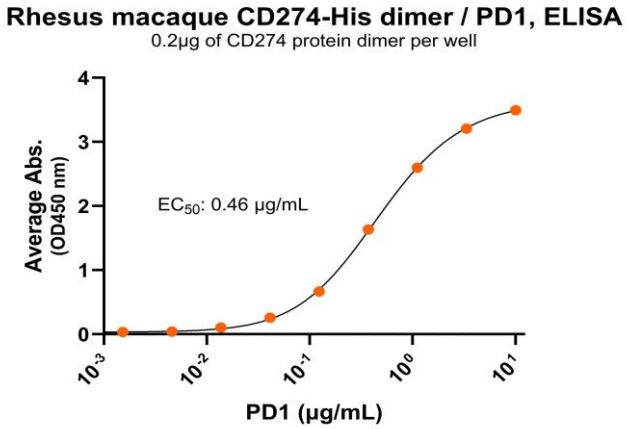
Immobilized Rhesus macaque CD274 protein dimer, His Tag (CSP-25292-01) at 2 μg/mL (100 μL/well) can bind anti-human CD274 polyclonal antibody with half maximal effective concentration (EC50) range of 5.3-21.2 ng/mL (QC tested).

Label Free Binding



Immobilized human PD1 can bind Rhesus macaque CD274 protein dimer, His Tag (CSP-25292-01) with a KD of 5.5-21.8 nM as determined by LSPR (Nicoya Alto).

Ligand Binding



Immobilized Rhesus macaque CD274 protein dimer, His Tag (CSP-25292-01) at 2 μg/mL (100 μL/well) can human PD1 with half maximal effective concentration (EC50) range of 0.2-0.9 μg/mL (QC tested).

Background

Cluster of differentiation 274 (CD274), is a Type I transmembrane protein in the immunoglobulin superfamily and a member of the B7 Family of ligands. CD274 is also known as programmed death-ligand 1 (PD-L1), B7 homolog 1 (B7H1, B7-H1), PDCD1L1, and PDCD1LG1. CD274 contains an extracellular domain with a distal immunoglobulin V-like (Ig-V-like) domain and proximal immunoglobulin C-like (Ig-C-like) domain, a transmembrane domain, and a cytoplasmic domain. CD274 is expressed on T cells, NK cells, macrophages, myeloid DCs, B cells, epithelial cells, and vascular endothelial cells. CD274 serves as an immunosuppressive ligand for PD-1 and the overexpression of CD274 on many tumor cells can prevent the immune system from attacking tumors. Inhibition of the interaction between PD-1 and CD274 can enhance antitumor activity, which has led to a new class of drugs called PD-1 inhibitors to activate the immune system and treat certain types of cancer. CD274 is highly expressed in a variety of malignancies, particularly lung cancer. CD274 exists as a monomer but can form dimer. While structurally and functionally similar to human CD274 homodimer, Rhesus macaque CD274 homodimer is a species-specific tool essential for preclinical studies, basic research, and translational research.