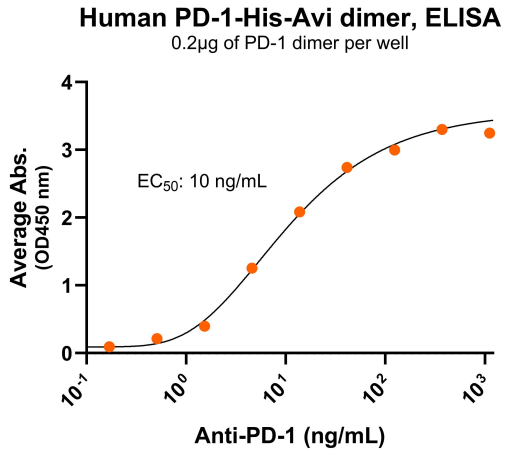
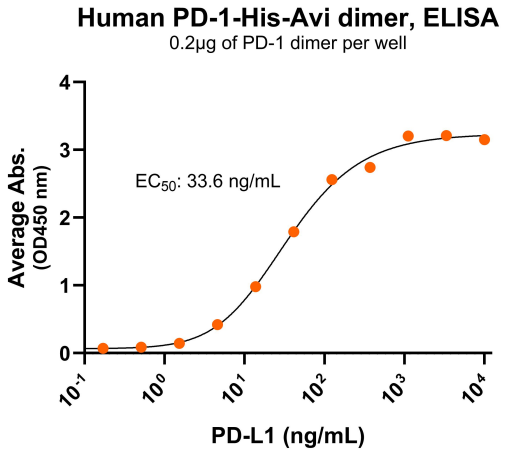
Bioactive, Human PD1 Dimer, His-Avi Tag
Product Code: CSP-24093-03
For Research Use Only (RUO)

Bioactivity – Antibody Binding



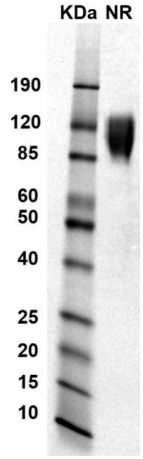
Immobilized human PD-1-His-Avi dimer protein (CSP-24093-03) at 2 μg/mL (100 μL/well) can bind anti-human PD-1 monoclonal antibody with half maximal effective concentration (EC50) range of 5-20 ng/mL (QC tested).

Bioactivity – Ligand Binding



Immobilized human PD-1-His-Avi dimer protein (CSP-24093-03) at 2 μg/mL (100 μL/well) can bind human PD-L1 with half maximal effective concentration (EC50) range of 16.8-67.1 ng/mL (QC tested).

SDS-PAGE



MW: Molecular Weight marker reduced condition
NR: PD-1 dimer under non-reducing condition

The migration range of the dimer protein with glycosylation under non-reducing conditions is 85-125 kDa on SDS PAGE.

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Expression Host
HEK293T

Protein Name
PD1

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

Alternate Name(s)
PDCD1, cluster of differentiation 279, CD279, PD1, systemic lupus erythematosus susceptibility 2, SLEB2, hPD-1, hPD-l, systemic lupus erythematosus susceptibility, hSLE1

Protein Construct
PD-1 dimer protein contains a PD-1 extracellular domain (UniProt# Q15116) fused with a proprietary dimer motif followed by a tandem His-Avi tag at the C-terminus. Expressed in HEK293T cell line.

Amino Acid Range
L25-V170

SDS-Page Molecular Weight
52 kDa. The migration range of the dimer protein with glycosylation under non-reducing conditions is 85-125 kDa on SDS PAGE.

Formulation
0.22μm filtered PBS, pH 7.4

Shipping Conditions
Frozen Dry Ice

Stability & Storage
-80^{0}C

Background

Human programmed cell death protein 1 (PD-1), is a Type I membrane protein and cell surface receptor on T cells and B cells and belongs to the immunoglobulin superfamily. PD-1 is also known as PDCD1, cluster of differentiation 279 (CD279), systemic lupus erythematosus susceptibility 2 (SLEB2), and systemic lupus erythematosus susceptibility (hSLE1). PD-1 contains an extracellular immunoglobulin-V-like (Ig-V-like) domain followed by a transmembrane region, and an intracellular tail. PD-1 is an immune checkpoint that binds two ligands, PD-L1 and PD-L2, which are members of the B7 family. PD-L1 serves as an immunosuppressive ligand for PD-1 and the overexpression of PD-L1 on many tumor cells can prevent the immune system from attacking tumors. Inhibition of the interaction between PD-1 and PD-L1 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. Although previously considered monomeric, PD-1 has been shown to have a propensity for forming homodimers and this homodimerization increases the potency of its activity. Therefore, a recombinant protein mimicking the PD-1 dimer conformation can be crucial for cancer therapeutic discovery.