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**Product Name: Bioactive, Human CD4 Protein Dimer, His Tag**

**Product Code: CSP-24004**

**FOR RESEARCH USE ONLY (RUO)**

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**Protein Name:** CD4, Protein Dimer

**Alternate Name(s):** IL16R

**Expression Host**  
HEK293T

**Amino Acid Range**  
G25-P396

**Protein Construct**

CD4 dimer contains CD4 extracellular 4-domains (UniProt# A0A4Y5UGE4) with a homodimer motif and a His tag at the C-terminus. Expressed in HEK293T cell line.

**SDS-Page Molecular Weight**

112 kDa. Migration range of the dimer under non-reducing condition is 100-150kDa on SDS PAGE

**Purity**

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

**Shipping Conditions**

Frozen Ice Packs

**Stability & Storage**

-80°C

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, pH 7.4 with 10% trehalose as protectant

**Reconstitution of lyophilized product**

For best performance, we strongly recommend you reconstitute the lyophilized product with deionized water to a stock solution of 500 µg/mL.

Solubilize for 20 minutes at room temperature with occasional gentle mixing. Avoid shaking or vortexing.

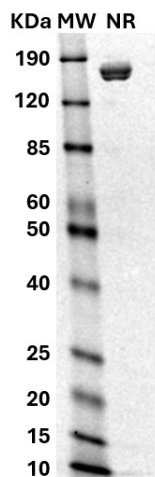
For 25µg product size:

Reconstitute with 50 µL sterile deionized water.

For 100µg product size:

Reconstitute with 200 µL sterile deionized water.

## SDS-PAGE



MW: Molecular Weight marker reduced condition

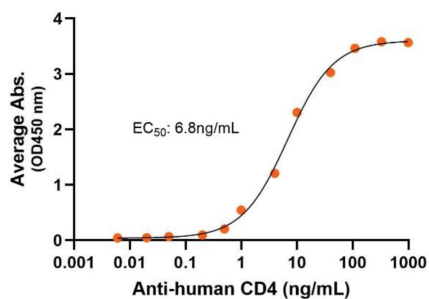
NR: CD4 dimer under non-reduced condition

Migration range of the dimer under non-reducing condition is 100-150kDa on SDS PAGE

## Antibody Binding

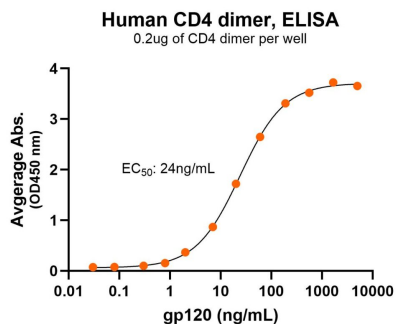
### Human CD4 dimer, ELISA

0.2µg of CD4 dimer per well



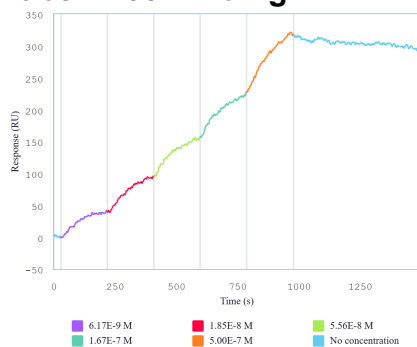
Immobilized human CD4 dimer protein, His Tag (Cat. No. CSP-24004) at 2 µg/mL (100 µL/well) can bind anti-human CD4 monoclonal antibody with half maximal effective concentration (EC<sub>50</sub>) range of 3.46 – 13.85 ng/mL (QC tested).

## Ligand Binding



Immobilized human CD4 dimer protein, His Tag (Cat. No. CSP-24004) at 2 µg/mL (100 µL/well) can bind HIV-1 envelope glycoprotein gp120 with half maximal effective concentration (EC50) range of 11.45 – 45.8 ng/mL (QC tested). The gp120 D368R mutation diminishes the binding to CD4 dimer protein as expected.

## Label Free Binding



Immobilized human gp120 protein can bind human CD4 protein dimer, His tag (Cat. No. CSP-24004) with a KD of 2.4-9.6 nM as determined by LSPR (Nicoya Alto).

### **Background**

CD4 is type 1 integral membrane glycoprotein protein on T cell surface, also known as known as T-cell surface antigen T4/Leu-3. CD4 contains an extracellular domain, a transmembrane domain and a cytoplasmic domain. The extracellular domain has 4 immunoglobulin-like (Ig-like) domains: one Ig-like V-type domain and three Ig-like C2-type domains. The CD4 extracellular domain is responsible for MHC class-II antigen/T-cell receptor interaction and T cell activation. CD4 is also known as interleukin 16 receptor (IL16R). The IL16 cytokine binds CD4 to activate a downstream signalling cascade. CD4 is also the primary receptor for the human immunodeficiency virus (HIV) envelope glycoprotein gp120 to mediate HIV infection and entry into host T cells, as the underlying cause of acquired immune deficiency syndrome (AIDS).