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

Product Code: CSP-24004-01

FOR RESEARCH USE ONLY (RUO)

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

Product is shipped at ambient temperature.

Formulation

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

Stability & Storage

On receipt, store at -20 C or lower for long term storage.

This product is stable at:

-20 to -70 C for 12 months from date of receipt in lyophilized state.

-70 C for 3 months after reconstitution under sterile conditions.

Avoid repeated freeze-thaw cycles

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.

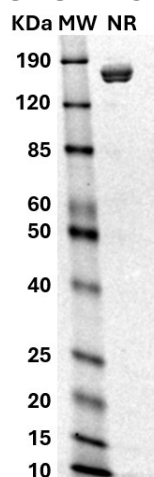
For 25µg product size:

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

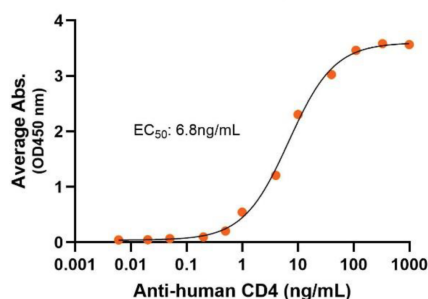
NR: CD4 dimer under non-reduced condition

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

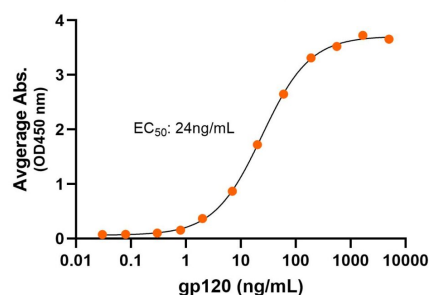


Immobilized human CD4 dimer protein, His Tag (Cat. No. CSP-24004-01) at 2 µg/mL (100 µL/well) can bind anti-human CD4 monoclonal antibody with half maximal effective concentration (EC50) range of 3.46 – 13.85 ng/mL (QC tested).

Ligand Binding

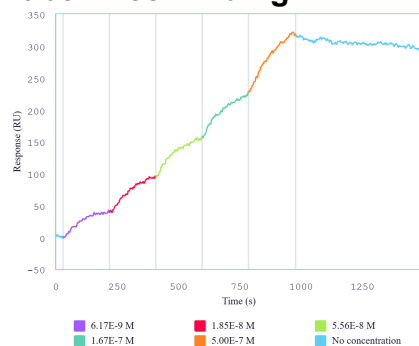
Human CD4 dimer, ELISA

0.2ug of CD4 dimer per well



Immobilized human CD4 dimer protein, His Tag (Cat. No. CSP-24004-01) 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-24004-01) 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).