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

Product Code: CSP-24004

FOR RESEARCH USE ONLY (RUO)

Protein Name: CD4

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

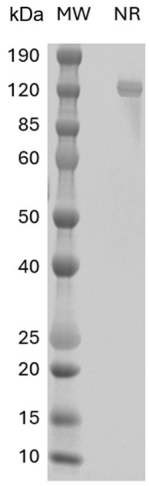
Purity
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

Formulation
0.22µm filtered PBS, pH 7.4

Stability & Storage
-80^{0}C

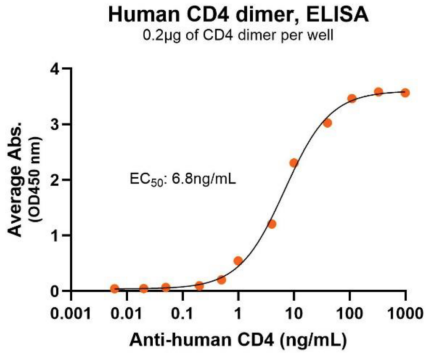
Shipping Conditions
Frozen Dry Ice

SDS-PAGE



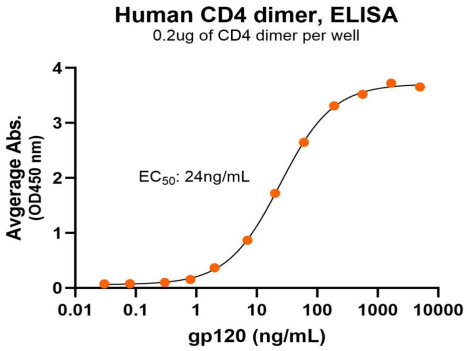
MW: Molecular Weight marker reduced condition
NR: CD4 dimer under non-reduced condition
Migration range of the dimer under non-reducing condition is 100-150kDa on SDS PAGE

Antibody Binding



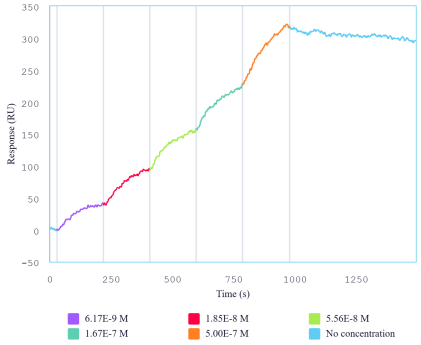
Immobilized human CD4 dimer protein, His Tag (Cat. No. CSP-24004) at 2 μg/mL (100 μL/well) can bind anti-human CD4 monoclonal antibody with half maximal effective concentration (EC50) range of 3.46 – 13.85 ng/mL (QC tested).

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).