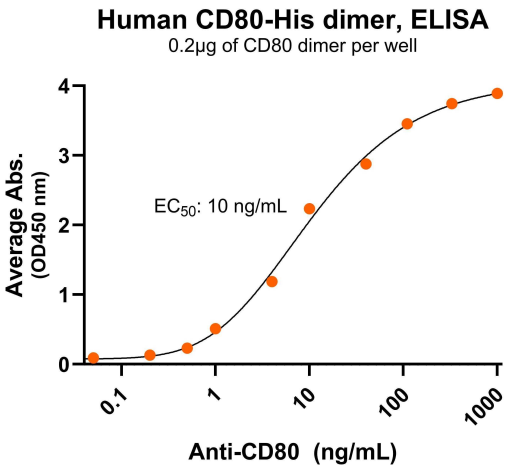
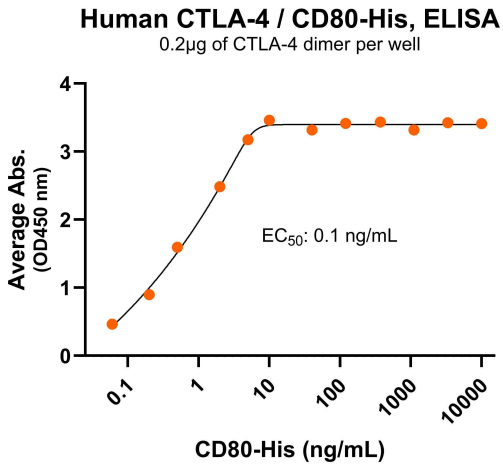
Bioactive, Human CD28 Dimer, His Tag
Product Code: CSP-24032
For Research Use Only (RUO)

Bioactivity – Antibody Binding



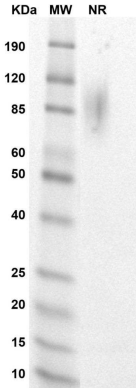
Immobilized human CD28 dimer protein, His Tag (Cat. No. CSP-24032) at 2 μg/mL (100 μL/well) can bind anti-human CD28 monoclonal antibody, with half maximal effective concentration (EC50) range of 1.1-4.3 ng/mL (QC tested).

Bioactivity – Ligand Binding



Immobilized human CD28 dimer protein, His Tag (Cat. No. CSP-24032) at 2 μg/mL (100 μL/well) can bind human CD80 dimer protein (Cat. No. CSP-24033-04), with half maximal effective concentration (EC50) range of 2.9-11.7 μg/mL (QC tested).

SDS-PAGE



MW: Molecular Weight marker reduced condition
NR: CD28 dimer under non-reducing condition

The migration range of the dimer under non-reducing condition is 60-120 kDa on SDS PAGE.

Bioactive, Human CD28 Dimer, His Tag
Product Code: CSP-24032
For Research Use Only (RUO)

Expression Host
HEK293T

Protein Name
CD28

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

Alternate Name(s)
Tp44, TP-44, T-cell-specific surface glycoprotein CD28, CD28 Antigen

Protein Construct
CD28 dimer protein contains a CD28 extracellular domain (Uniprot# P10747) fused with a proprietary dimer motif followed by a His tag at the C-terminus. Expressed in HEK293T cell line.

Amino Acid Range
N19-P152

SDS-Page Molecular Weight
46 kDa. The migration range of the dimer under non-reducing condition is 60-120 kDa on SDS PAGE.

Formulation
0.22µm filtered PBS, pH 7.4

Shipping Conditions
Frozen Dry Ice

Stability & Storage
-80^0C

Background

Human CD28 (Cluster of Differentiation 28) is a type I membrane protein is in the immunoglobulin superfamily and is a member of the B7 Family of ligands. CD28 is also known as Tp44, TP-44, T-cell-specific surface glycoprotein CD28, and CD28 Antigen. CD28 is the only B7 receptor consistently expressed on naive T cells. CD28 contains a single immunoglobulin variable-region-like (IgV-like) domain, a transmembrane domain, and a cytoplasmic domain. It exists as a homodimer on the cell surface forming a stable structure composed of two identical CD28 protein subunits. The intracellular domain contains two proline-rich motifs and a YMNM motif that are critical for effective signaling. As an immune checkpoint CD28 binds both CD80 (Cluster of differentiation 80) and CD86 (Cluster of differentiation 86) to transmit a stimulatory signal with T cells, competing with CTLA-4 (Cytotoxic T-lymphocyte associated protein 4) which transmits an inhibitory signal. CD28, as a key co-stimulatory receptor in T cell activation, is associated with several diseases, particularly those related to immune system dysfunction, including autoimmune diseases, cancers, and allergic and inflammatory disorders. CD28 is associated with autoimmune diseases including type 1 diabetes, lupus nephritis, asthma, and Crohn's disease. The importance of CD28 signals in T-cell function makes this molecule an exciting target for drug discoveries to modulate the function of both effector T cells and Treg cells.