

Active Recombinant Human CD28 Homodimer Protein, His tagged

Cat. No. CD28-22H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	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 was expressed in HEK293T.
Species	Human
Source	HEK293T
ProteinLength	19-152 aa
Description	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,

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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.

Molecular Mass	46 kDa
Purity	Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition
Application	Verified Applications: ELISA for CD28-specific antibody and CD80 ligand protein binding assays. BLI protein binding assays for CD28 with CD80. Suggested Applications: ELISA for CD28-specific antibody and CD80 ligand protein binding assays. SPR & BLI for CD28-specific antibody and CD80 protein binding assays. Animal immunization, RUO.
Storage	Store at -80 centigrade.
Storage Buffer	0.22µm filtered PBS, pH 7.4
Shipping	Frozen Dry Ice

GENE INFORMATION

Gene Name	CD28 CD28 molecule [Homo sapiens (human)]
Official Symbol	CD28
Synonyms	CD28; CD28 molecule; CD28 antigen (Tp44); T-cell-specific surface glycoprotein

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CD28; T cell specific surface glycoprotein; CD28 antigen; Tp44; MGC138290;

Gene ID 940

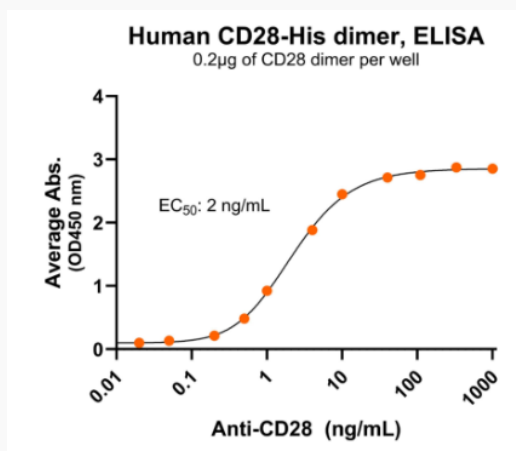
mRNA Refseq NM_001243077

Protein Refseq NP_001230006

MIM 186760

UniProt ID P10747

Bioactivity-Antibody Binding



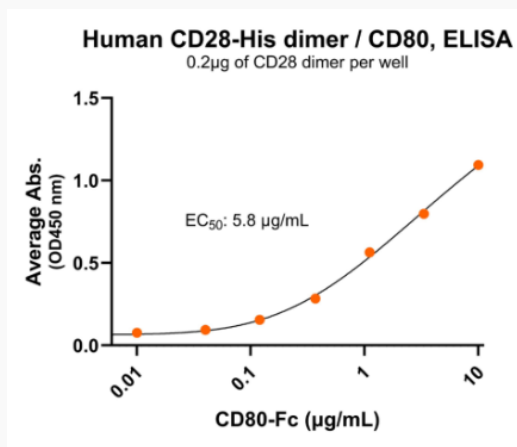
Immobilized human CD28 dimer protein, His Tag at 2 µg/mL (100 µL/well) can bind anti-human CD28 monoclonal antibody, with half maximal effective concentration (EC50) range of 1.1-4.3 ng/mL (QC tested).

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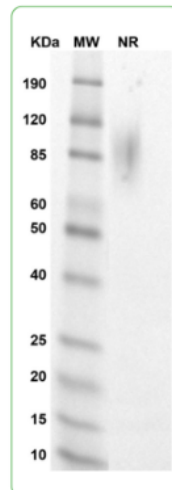
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Bioactivity-Ligand Binding



Immobilized human CD28 dimer protein, His Tag at 2 µg/mL (100 µL/well) can bind human CD80 dimer protein, 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