

# Active Recombinant Mouse CD28 Homodimer Protein, His tagged

Cat. No. Cd28-23M Lot. No. (See product label)

## SPECIFICATION

**Product Overview** Mouse CD28 protein dimer contains a CD28 extracellular domain (Uniprot# P31041) fused with a proprietary cis-dimer motif followed by a His tag at the C-terminus was expressed in HEK293T.

**Species** Mouse

**Source** HEK293T

**ProteinLength** 20-150 aa

**Description** Cluster of Differentiation 28 (CD28) is a Type I membrane protein in the immunoglobulin superfamily and 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 YMN M 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 human diseases, particularly those

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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. While structurally and functionally similar to human CD28, mouse CD28 is a species-specific tool essential for preclinical studies, basic research and translational research in cancer immunotherapy.

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

## GENE INFORMATION

<b>Gene Name</b>	Cd28 CD28 antigen [ <i>Mus musculus</i> (house mouse) ]
<b>Official Symbol</b>	Cd28
<b>Synonyms</b>	CD28; CD28 antigen; T-cell-specific surface glycoprotein CD28;

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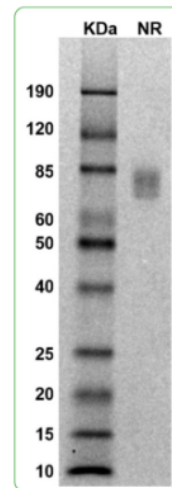
Gene ID 12487

mRNA Refseq NM\_007642

Protein Refseq NP\_031668

UniProt ID P31041

#### SDS-PAGE



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

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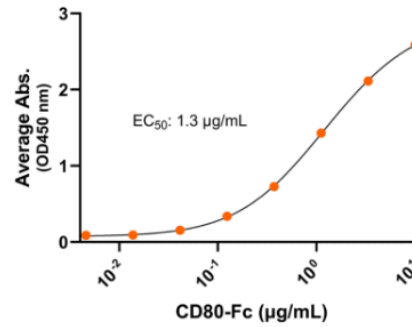
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**Bioactivity-Ligand  
Binding**

**Mouse CD80-Fc dimer / CD28-His dimer ELISA**

0.2µg of CD28 protein dimer per well



Immobilized mouse CD28 protein dimer, His Tag at 2 µg/mL (100 µL/well) can bind mouse CD80 protein dimer, Fc Tag, with half maximal effective concentration (EC50) range of 0.6-2.6 µg/mL (QC tested).

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