

Recombinant Human CD28, Fc-tagged

Cat. No. CD28-142H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	The extracellular domain of human CD28 (aa 19-152) is fused to the N-terminus of the Fc region of human IgG1.
Species	Human
Source	CHO
ProteinLength	19-152 a.a.
Description	CD28 and CTLA-4 together with their ligands, CD80 (B7-1) and CD86 (B7-2), constitute one of the dominant costimulatory pathways that regulate T and B cell responses. CD28 and CTLA-4 are structurally homologous molecules that are members of the immunoglobulin (Ig) gene superfamily. Both CD28 and CTLA-4 are composed of a single Ig V-like extracellular domain, a transmembrane domain and an intracellular domain. CD28 and CTLA-4 are both expressed on the cell surface as disulfide-linked homodimers or as monomers. The genes encoding these two molecules are closely linked on human chromosome 2 and mouse chromosome 1. Mouse CD28 is expressed constitutively on virtually 100% of mouse T cells and on developing thymocytes. Cell surface expression of mouse CD28 is downregulated upon ligation of CD28 in the presence of PMA or PHA. In contrast, CTLA-4 is not expressed constitutively but is upregulated rapidly following T cell activation and CD28 ligation. Cell surface expression of mouse CTLA-4 peaks approx.y 48 hours after activation. Although both CTLA-4 and CD28 can bind to the same ligands, CTLA-4 binds to B7-1 and B7-2 with a 20-100 fold higher affinity than CD28.

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CD28/B7 interaction has been shown to prevent apoptosis of activated T cells via the upregulation of bcl-XL. CD28 ligation has also been shown to regulate Th1/Th2 differentiation.

Form Lyophilized from 0.2µm-filtered solution in PBS.

Purity ≥98% (SDS-PAGE)

Stability Stable for at least 1 year after receipt when stored at -20°C. Working aliquots are stable for up to 3 months when stored at -20°C.

Storage Short Term Storage: +4°C; Long Term Storage: -20°C. Avoid freeze/thaw cycles.

GENE INFORMATION

Gene Name [CD28 CD28 molecule \[Homo sapiens \]](#)

Official Symbol CD28

Synonyms CD28; CD28 molecule; CD28 antigen (Tp44); T-cell-specific surface glycoprotein 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](#)

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Chromosome Location	2q33
Pathway	Adaptive Immune System, organism-specific biosystem; Allograft rejection, organism-specific biosystem; Allograft rejection, conserved biosystem; Autoimmune thyroid disease, organism-specific biosystem; Autoimmune thyroid disease, conserved biosystem; CD28 co-stimulation, organism-specific biosystem; CD28 dependent PI3K/Akt signaling, organism-specific biosystem;
Function	SH3/SH2 adaptor activity; coreceptor activity; identical protein binding; protease binding; protein binding; protein homodimerization activity;

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