

CD28
Catalog # PVGS1558**Specification**

CD28 - Product Information

Primary Accession [P10747](#)
Species
Human

Sequence
Asn19-Pro152

Purity
> 97% as analyzed by SDS-PAGE

Endotoxin Level
< 0.2 EU/ µg of protein by gel clotting method

Biological Activity
Immobilized CD28, hFc, Human at 2.0 µg/ml (100 µl/well) can bind human Biotin-B7-1(CD80) Fc when detected by Streptavidin-HRP second antibody.

Expression System
HEK 293

Formulation **Lyophilized from a 0.2 µm filtered solution in PBS.**

Reconstitution
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH₂O or PBS up to 100 µg/ml.

Storage & Stability
Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

CD28 - Additional Information

Gene ID 940

Other Names
T-cell-specific surface glycoprotein CD28, TP44, CD28, CD28

Target Background
Human CD28 is composed of four exons encoding a protein of 220 amino acids that is expressed on the cell surface as a glycosylated, disulfide-linked homodimer of 44 kDa. Members of the CD28 family share a number of common features. These receptors consist of paired V-set immunoglobulin superfamily (IgSF) domains attached to single transmembrane domains and

cytoplasmic domains that contain critical signaling motifs. The CD28 and CTLA4 ligands, CD80 and CD86, consist of single V-set and C1-set IgSF domains. The interaction of these costimulatory receptors with ligands is mediated through the MYPPPY motif within the receptor V-set domains. CD28 is expressed constitutively on almost all human CD4 T cells and approximately 50% of CD8 T cells. CD28 costimulation has diverse effects on T cell function, including biochemical events at the immunological synapse, downstream phosphorylation and other post-translational modifications, transcriptional changes, and cytoskeletal remodeling. At the most basic level, CD28 signals increase a cell's glycolytic rate, allowing cells to generate the energy necessary for growth and proliferation.

CD28 - Protein Information

Name CD28

Function

Receptor that plays a role in T-cell activation, proliferation, survival and the maintenance of immune homeostasis (PubMed: [1650475](http://www.uniprot.org/citations/1650475), PubMed: [7568038](http://www.uniprot.org/citations/7568038)). Functions not only as an amplifier of TCR signals but delivers unique signals that control intracellular biochemical events that alter the gene expression program of T-cells (PubMed: [24665965](http://www.uniprot.org/citations/24665965)). Stimulation upon engagement of its cognate ligands CD80 or CD86 increases proliferation and expression of various cytokines in particular IL2 production in both CD4(+) and CD8(+) T-cell subsets (PubMed: [1650475](http://www.uniprot.org/citations/1650475), PubMed: [35397202](http://www.uniprot.org/citations/35397202)). Mechanistically, ligation induces recruitment of protein kinase C- θ /PRKCQ and GRB2 leading to NF- κ B activation via both PI3K/Akt-dependent and -independent pathways (PubMed: [21964608](http://www.uniprot.org/citations/21964608), PubMed: [24665965](http://www.uniprot.org/citations/24665965), PubMed: [7568038](http://www.uniprot.org/citations/7568038)). In conjunction with TCR/CD3 ligation and CD40L costimulation, enhances the production of IL4 and IL10 in T-cells (PubMed: [8617933](http://www.uniprot.org/citations/8617933)).

Cellular Location

Cell membrane; Single-pass type I membrane protein

Tissue Location

Expressed in T-cells and plasma cells, but not in less mature B-cells

CD28 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

CD28 - Images

