

## Recombinant Human CD28 Molecule

**Cat. No.** CD28-1593H    **Lot. No.** (See product label)

### SPECIFICATION

#### Product Overview

**Species** Human

**Source** Mammalian Cells

#### Description

CD28 (Cluster of Differentiation 28) is one of the molecules expressed on T cells that provide co-stimulatory signals, which are required for T cell activation. CD28 is composed of a single Ig V-like extracellular domain, a transmembrane domain and an intracellular domain. It is expressed on the cell surface as disulfide-linked homodimer or as monomer. CD28 is the receptor for B7.1 (CD80) and B7.2 (CD86). When activated by Toll-like receptor ligands, the B7.1 expression is upregulated in antigen presenting cells (APCs). The B7.2 expression on antigen presenting cells is constitutive. CD28 is the only B7 receptor constitutively expressed on naive T cells. Stimulation through CD28 in addition to the TCR can provide a potent co-stimulatory signal to T cells for the production of various interleukins (IL-2 and IL-6 in particular). CD28 possesses an intracellular domain with several residues that are critical for its effective signalling. CD28 also contains two proline-rich motifs that are able to bind SH3-containing proteins. CD28 has also been found to stimulate eosinophil granulocytes where its ligation with anti-CD28 leads to the release of IL-2, IL4, IL-13 and IFN- $\gamma$ .

#### Molecular Weight

The predicted molecular weight of Recombinant Human CD28 is Mr 42.2 kDa. However, the actual molecular weight as observed by migration on SDS Page is Mr 60-70 kDa.

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|                              |                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>State Of Matter</b>       | Lyophilized.                                                                                                                                                                                                                                                                                                                                    |
| <b>Purity</b>                | >95% by SDS Page and analyzed by silver stain.                                                                                                                                                                                                                                                                                                  |
| <b>Endotoxin</b>             | <1.0 EU/g as determined by the LAL method.                                                                                                                                                                                                                                                                                                      |
| <b>Storage And Stability</b> | This lyophilized protein is stable for six to twelve months when stored desiccated at -20°C to -70°C. After aseptic reconstitution, this protein may be stored at 2°C to 8°C for one month or at -20°C to -70°C in a manual defrost freezer. Avoid Repeated Freeze Thaw Cycles. See Product Insert for exact lot specific storage instructions. |

## GENE INFORMATION

|                            |                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>           | CD28 CD28 molecule [ Homo sapiens ]                                                                           |
| <b>Synonyms</b>            | CD28; CD28 molecule; Tp44; MGC138290; CD28 antigen; CD28 antigen (Tp44); T-cell-specific surface glycoprotein |
| <b>Gene ID</b>             | 940                                                                                                           |
| <b>mRNA Refseq</b>         | NM_006139                                                                                                     |
| <b>Protein Refseq</b>      | NP_006130                                                                                                     |
| <b>MIM</b>                 | 186760                                                                                                        |
| <b>UniProt ID</b>          | P10747                                                                                                        |
| <b>Chromosome Location</b> | 2q33                                                                                                          |
| <b>Pathway</b>             | Allograft rejection; Autoimmune thyroid disease; Cell adhesion molecules (CAMs);                              |

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Graft-versus-host disease; Systemic lupus erythematosus; T cell receptor signaling pathway; Type I diabetes mellitus

**Function**

SH3/SH2 adaptor activity; coreceptor activity; identical protein binding

**Structure of human CD28.**

