

## CD28 Protein, Rat, Recombinant (hFc)

### General Information

Synonyms:	CD28 molecule
Protein Construction:	A DNA sequence encoding the rat Cd28 (EDL98926.1) (Met1-Lys149) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Asn 20
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	A6IPD4
Molecular Weight:	42 kDa (predicted)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

**Stability & Storage:**  
It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**  
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

CD28 (Cluster of Differentiation 28) is a disulphide-bonded glycoprotein belonging to the immunoglobulin (Ig) superfamily, and structurally consists of a single Ig V-like extracellular domain, a transmembrane domain and an intracellular domain. Mouse CD28 is constitutively expressed on the surface of all murine T cells and on developing thymocytes as disulfide-linked homodimers or as monomers. CD28 can binds the B7-1 and B7-2 ligand, and together perform important functions in the T and B cell response pathways. B7/CD28 family members, which can

augment or antagonize T-cell receptor signaling, in the regulation of central and peripheral T-cell tolerance. CD28 is thus involved in T-cell activation, the induction of cell proliferation and cytokine production and promotion of T-cell survival. Cancer Immunotherapy Co-stimulatory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Detection: Antibodies Immune Checkpoint Detection: ELISA Antibodies Immune Checkpoint Detection: FCM Antibodies Immune Checkpoint Detection: IHC Antibodies Immune Checkpoint Detection: WB Antibodies Immune Checkpoint Targets Immunotherapy Targeted Therapy.

### Reference

- Keir ME, et al. (2005) The B7/CD28 costimulatory family in autoimmunity. *Immunol Rev.* 204: 128-43.
- Sansom DM, et al. (2006) The role of CD28 and cytotoxic T-lymphocyte antigen-4 (CTLA-4) in regulatory T-cell biology. *Immunol Rev.* 212: 131-48.
- Bjrgo E, et al. (2010) Novel mechanism of signaling by CD28. *Immunol Lett.* 129(1): 1-6.

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