

## CD28 Protein, Human/Cynomolgus/Rhesus macaque, Recombinant (His & Avi)

### General Information

|                       |  |
|-----------------------|--|
| Synonyms:             | CD28 molecule;MGC138290;CD28;CD28 antigen (Tp44)   |
| Protein Construction: | Asn19-Pro152   |
| Species:              | Human,Cynomolgus,Rhesus  |
| Expression Host:      | HEK293 Cells   |
| Accession:            | P10747-1   |
| Molecular Weight:     | 18.2 kDa (predicted). Due to glycosylation, the protein migrates to 36-52 kDa based on Tris-Bis PAGE result. |

### QC Testing

|                      |  |
|----------------------|--|
| Biological Activity: | <ol style="list-style-type: none"><li>1. Immobilized Human/Cynomolgus/Rhesus macaque CD28, His Tag at 0.5<math>\mu</math>g/ml (100<math>\mu</math>l/Well) on the plate. Dose response curve for Anti-CD28 Antibody, hFc Tag with the EC50 of 18.4ng/ml determined by ELISA (QC Test).</li><li>2. Anti-CD28 antibody captured on Protein A chip, can bind Human/Cynomolgus/Rhesus macaque CD28, His Tag with an affinity constant of 5.15nM as determined in a SPR assay.</li></ol> |
| Purity:              | > 95% as determined by Tris-Bis PAGE   |
| Endotoxin:           | < 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.  |
| Formulation:         | Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.  |

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100  $\mu$ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### 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 is the receptor for CD80 (B7-1) and CD86 (B7-2) proteins. When activated by Toll-like receptor ligands, the CD80 expression is upregulated in antigen presenting cells (APCs). The CD86 expression on antigen presenting

cells is constitutive. CD28 is the only B7 receptor constitutively expressed on naive T cells.

Reference

Suntharalingam G, et al. Cytokine Storm in a Phase 1 Trial of the Anti-CD28 Monoclonal Antibody TGN1412[J]. New England Journal of Medicine, 2006, 355(10):1018-1028.

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