ATAGENIX LABORATORIES

Catalog Number:ATMP00032HU

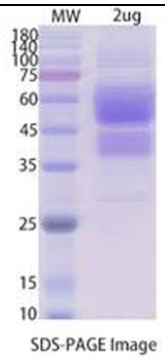
Recombinant Human CD28 protein ,C- Fc Tag

Product Details

Summary

English name	Recombinant Human CD28 protein ,C- Fc Tag
Purity	>90% as determined by SDS-PAGE
Endotoxin level	<1.0 EU per μg of the protein as determined by the LAL method.
Construction	A DNA sequence encoding the human CD28(Met1~Pro152) was fused with the C-terminal Fc Tag
Accession #	P10747
Host	Mammalian cells
Species	Homo sapiens (Human)
Predicted Molecular Mass	42.63KDa
Formulation	Supplied as solution form in PBS, pH7.5 or lyophilized from PBS, pH7.5.
Shipping	In general, proteins are provided as lyophilized powder/frozen liquid. They are shipped out with dry ice/blue ice unless customers require otherwise.
Stability &Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 °C for one week . Store at -20 to -80 °C for twelve months from the date of receipt.
Reconstitution	Reconstitute in sterile water for a stock solution.A copy of datasheet will be provided with the products, please refer to it for details.

SDS-PAGE image



SDS-PAGE Image

Background

Background	T-cell-specific surface glycoprotein CD28 is also known as TP44, is a single-pass type I membrane protein which contains one Ig-like V-type (immunoglobulin-like)

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domain. is one of the molecules expressed on T cells that provide co-stimulatory signals, which are required for T cell activation. CD28 is the receptor for CD80 (B7.1) and CD86 (B7.2). 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.

Alternative Names CD28,Tp44

References Zhao, Yang, Zhang, Lu, Xiong, Zhang, Zhou, Qi, He, Ding, Hu, De Smet, Lu, Huang (2020) Efficacy and Safety of CD28- or 4-1BB-Based CD19 CAR-T Cells in B Cell Acute Lymphoblastic Leukemia Molecular therapy oncolytics 18() 272-281

Frontier progress

CD19-directed chimeric antigen receptor-T (CAR-T) cells with a 4-1BB or CD28 co-stimulatory domain have shown impressive antitumor activity against relapsed or refractory B cell acute lymphoblastic leukemia (r/r B-ALL). However, a parallel comparison of their performances in r/r B-ALL therapy has not been sufficiently reported. Here, we manufactured 4-1BB- and CD28-based CD19 CAR-T cells using the same process technology and evaluated their efficacy and safety in r/r B-ALL therapy based on pre-clinical and exploratory clinical investigations. In B-ALL-bearing mice, a similar antitumor effect and CAR-T kinetics in peripheral blood were observed at the CAR-T dose of 1 × 107/mouse. However, when the dose was decreased to 1 × 106 /mouse, 4-1BB CAR-T cells were more potent in eradicating tumor cells and showed longer persistence than CD28 CAR-T cells. Retrospective analysis of an exploratory clinical study that used 4-1BB- or CD28-based CAR-T cells to treat r/r B-ALL was performed. Compared with CD28 CAR-T cells, 4-1BB CAR-T cells resulted in higher antitumor efficacy and less severe adverse events. This study demonstrated that the performance of 4-1BB CAR-T cells was superior to that of CD28 CAR-T cells in suppressing CD19+ B-ALL, at least under our manufacturing process.