



### Synonym

CD86,B7-2,B70,CD28LG2,LAB72,MGC34413

### Source

Human B7-2, Fc Tag, premium grade(CD6-H5257) is expressed from human 293 cells (HEK293). It contains AA Leu 26 - Pro 247 (Accession # [AAH40261](#)).

Predicted N-terminus: Leu 26

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

### Molecular Characterization

B7-2(Leu 26 - Pro 247) AAH40261	Fc(Pro 100 - Lys 330) P01857
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This protein carries a human IgG1 Fc tag at the C-terminus.

The protein has a calculated MW of 51.5 kDa. The protein migrates as 66-100 kDa under reducing (R) condition, and 120-140 kDa under non-reducing (NR) condition (SDS-PAGE) due to glycosylation.

### Endotoxin

Less than 0.01 EU per µg by the LAL method.

### Sterility

Negative

### Mycoplasma

Negative.

### Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

### Formulation

Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 100 mM Glycine, 25 mM Arginine, 10 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

### Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

### Storage

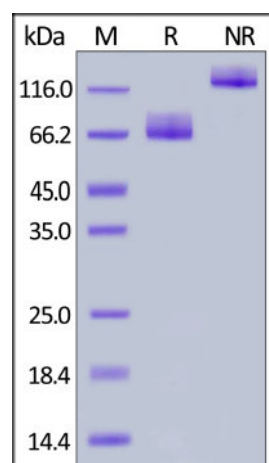
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

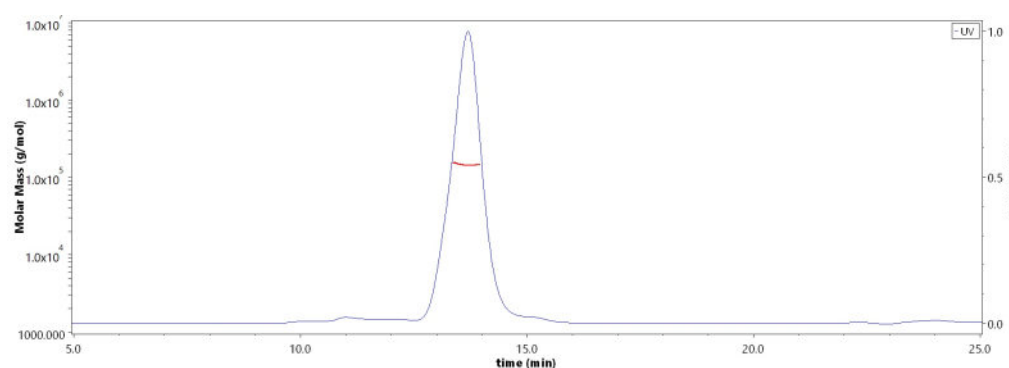
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### SDS-PAGE



Human B7-2, Fc Tag, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

### SEC-MALS



The purity of Human B7-2, Fc Tag, premium grade (Cat. No. CD6-H5257) is more than 90% and the molecular weight of this protein is around 120-150 kDa verified by SEC-MALS.

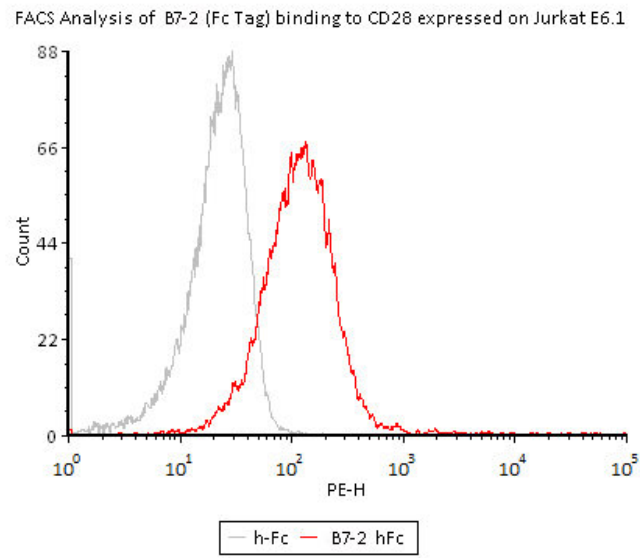
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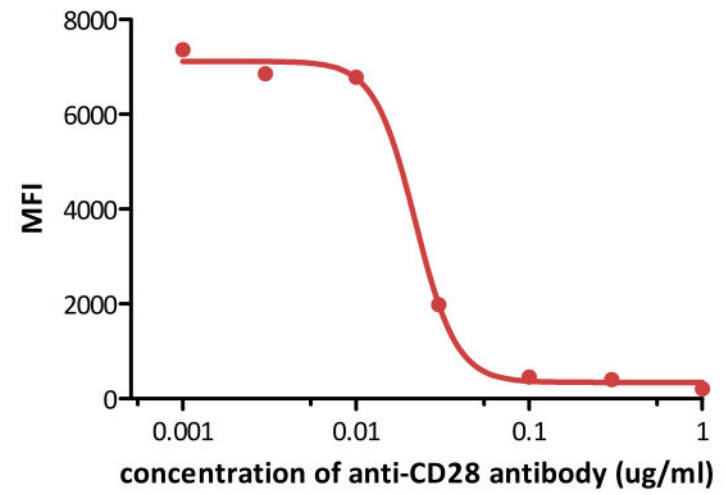


**Bioactivity-FACS**

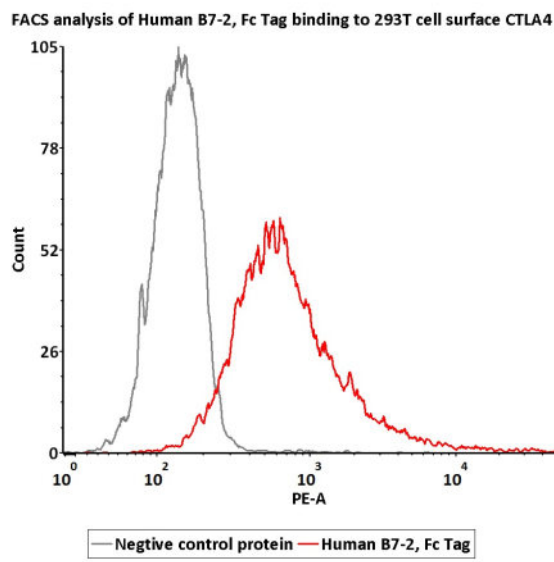


Flow Cytometry assay shows that recombinant Human B7-2, Fc Tag, premium grade (Cat.No. CD6-H5257) can bind to CD28 expressed on Jurkat E6.1. The concentration of B7-2 used is 2 µg/ml (Routinely tested).

**competitive experiment of neutralizing anti-CD28 antibody**

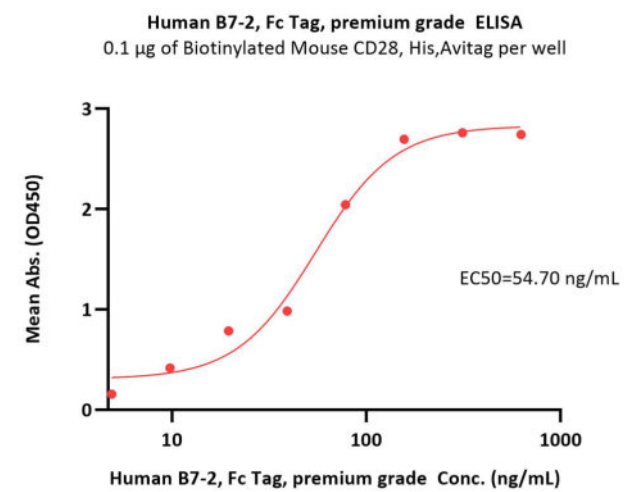
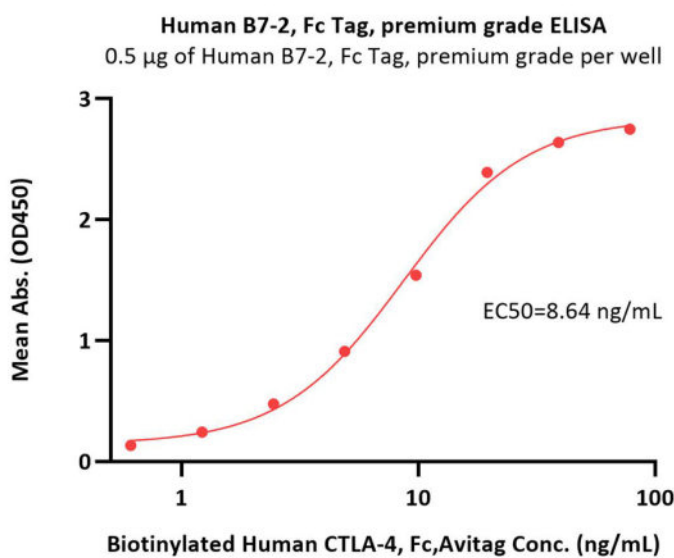


FACS analysis shows that the binding of Human B7-2, Fc Tag, premium grade (Cat. No. CD6-H5257) to CD28 expressed on Jurkat E6.1 was inhibited by increasing concentration of neutralizing anti-CD28 antibody. The concentration of B7-2 used is 2 µg/ml. The IC50 is 0.022 µg/ml (Routinely tested).



FACS assay shows that Human B7-2, Fc Tag, premium grade (Cat. No. CD6-H5257) can bind to 293T cells overexpressing human CTLA4 protein. The concentration of Human B7-2 is 3 µg/ml (Routinely tested).

**Bioactivity-ELISA**



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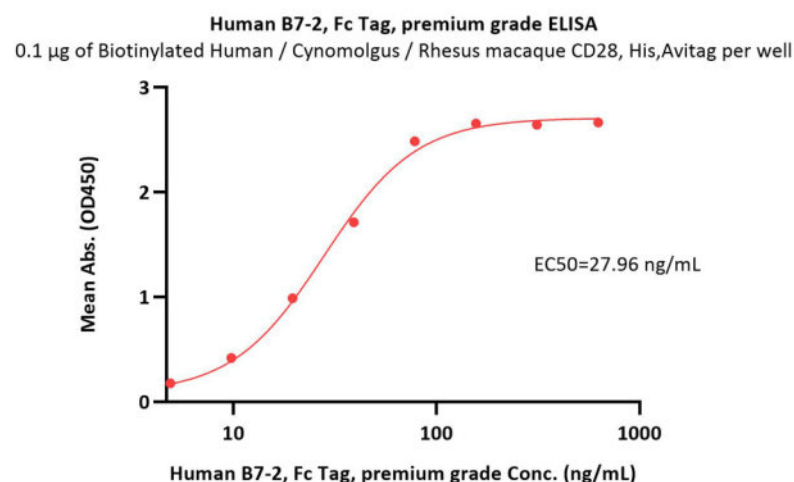
## Human B7-2 / CD86 Protein, Fc Tag, premium grade

Catalog # CD6-H5257



BIOSYSTEMS  
**Acro**

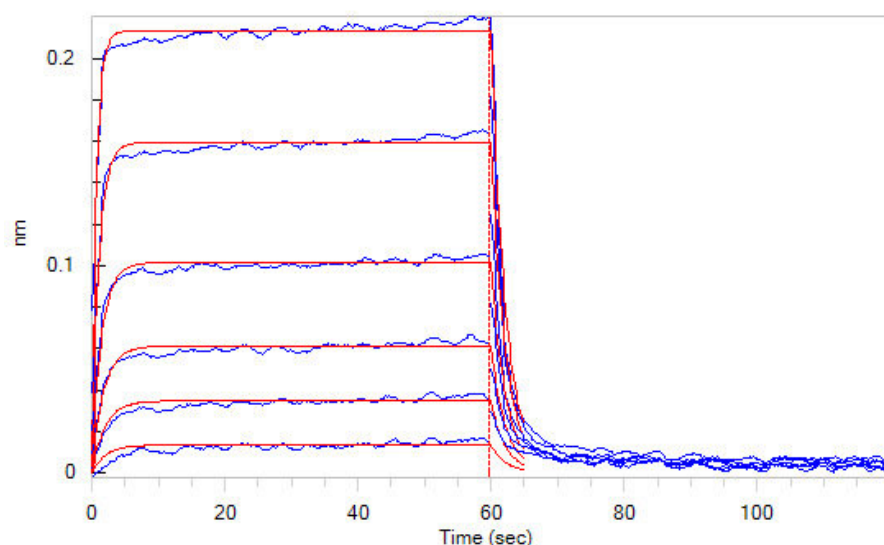
Immobilized Human B7-2, Fc Tag, premium grade (Cat. No. CD6-H5257) at 5  $\mu\text{g}/\text{mL}$  (100  $\mu\text{L}/\text{well}$ ) can bind Biotinylated Human CTLA-4, Fc, Avitag (Cat. No. CT4-H82F3) with a linear range of 0.6-10  $\text{ng}/\text{mL}$  (QC tested).



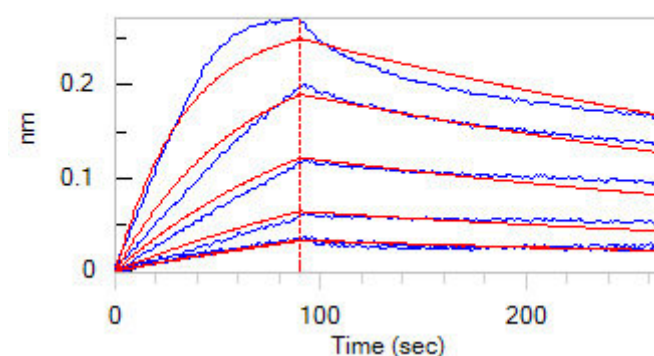
Immobilized Biotinylated Mouse CD28, His, Avitag (Cat. No. CD8-M82E3) at 1  $\mu\text{g}/\text{mL}$  (100  $\mu\text{L}/\text{well}$ ) on Streptavidin (Cat. No. STN-N5116) precoated (0.5  $\mu\text{g}/\text{well}$ ) plate, can bind Human B7-2, Fc Tag, premium grade (Cat. No. CD6-H5257) with a linear range of 5-78  $\text{ng}/\text{mL}$  (Routinely tested).

Immobilized Biotinylated Human / Cynomolgus / Rhesus macaque CD28, His, Avitag (Cat. No. CD8-H82E5) at 1  $\mu\text{g}/\text{mL}$  (100  $\mu\text{L}/\text{well}$ ) on Streptavidin (Cat. No. STN-N5116) precoated (0.5  $\mu\text{g}/\text{well}$ ) plate, can bind Human B7-2, Fc Tag, premium grade (Cat. No. CD6-H5257) with a linear range of 2-78  $\text{ng}/\text{mL}$  (Routinely tested).

### Bioactivity-BLI



Loaded Human B7-2, Fc Tag, premium grade (Cat. No. CD6-H5257) on Protein A Biosensor, can bind Human / Cynomolgus / Rhesus macaque CD28, His Tag with an affinity constant of 4.5  $\mu\text{M}$  as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Human B7-2, Fc Tag, premium grade (Cat. No. CD6-H5257) on Protein A Biosensor, can bind Human CTLA-4, His Tag (Cat. No. CT4-H52H9) with an affinity constant of 1.03  $\text{nM}$  as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

### Background

Cluster of Differentiation 86 (CD86) is also known as B-lymphocyte activation antigen B7-2, is a type I membrane protein that is a member of the immunoglobulin superfamily, and is constitutively expressed on interdigitating dendritic cells, Langerhans cells, peripheral blood dendritic cells, memory B cells, and germinal center B cells. Additionally, B72 is expressed at low levels on monocytes and can be upregulated through interferon  $\gamma$ . CD86 is the ligand for two different proteins on the T cell surface: CD28 (for autoregulation and intercellular association) and CTLA-4 (for attenuation of regulation and cellular disassociation). CD86 works in tandem with CD80 to prime T cells. Recent study has revealed that B7-2 promotes the generation of a mature APC repertoire and promotes APC function and survival.

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6/26/2024

# Human B7-2 / CD86 Protein, Fc Tag, premium grade

Catalog # CD6-H5257



Furthermore, the B7 proteins are also involved in innate immune responses by activating NF- $\kappa$ B-signaling pathway in macrophages. CD86 thus is regarded as a promising candidate for immune therapy. CD86<sup>+</sup> macrophages in Hodgkin lymphoma patients are an independent marker for potential nonresponse to firstline-therapy.

## Clinical and Translational Updates

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