Data Sheet (Cat.No.TMPY-06824)

TargetMol

CTLA-4 Protein, Human, Recombinant (hFc & Avi), Biotinylated

General Information

Synonyms:	CD152;cytotoxic T-lymphocyte-associated protein 4;GSE;CTLA-4;CELIAC3;ALPS5;GRD4;CD;IDDM12
Protein Construction:	A DNA sequence encoding the Human CTLA4 (NP_005205.2)(Met1-Phe162) was expressed with a c-terminal AVI tagged Fc region of human IgG1 at the C-terminus (Fc-AVI). The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Lys 36
Species:	Human
Expression Host:	HEK293 Cells
Accession:	NP_005205.2
Molecular Weight:	42.89 kDa (predicted); 53.61 kDa (reducing conditions)

QC Testing

Biological Activity:	Immobilized Recombinant Human CD86 / B7-2 Protein (Fc Tag) at 2 μg/mL (100 μL/well) can bind Recombinant Human CTLA-4 Protein (ECD, Fc & AVI Tag), Biotinylated , the EC50 is 3.6-11.5 ng/mL.
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
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

Cytotoxic T-lymphocyte protein 4, also known as CTLA4 and CD152, is a single-pass type I membrane protein and a

member of the immunoglobulin superfamily. It is the second member of the CD28 receptor family. The ligands or counterreceptors for these two proteins are the B7 family members, CD80 (B7-1) and CD86 (B7-2). CTLA4 transmits an inhibitory signal to T cells, whereas CD28 transmits a stimulatory signal. Intracellular CTLA4 is also found in regulatory T cells and may play an important role in their functions. CD152 or cytotoxic T lymphocyte antigen-4 (CTLA-4) is an essential receptor involved in the negative regulation of T cell activation. Because of its profound inhibitory role, CD152 has been considered a sound susceptible candidate in autoimmunity and a persuasive target for cancer immunotherapy. In particular, recent evidence suggests that CD152 is also important in the homeostasis and function of a population of suppressive cells, termed regulatory T cells (Treg).Cancer ImmunotherapyCo-inhibitory Immune Checkpoint TargetsCTLA4 / CD152 Immune Checkpoint ProteinsImmune CheckpointImmune Checkpoint Detection: AntibodiesImmune Checkpoint Detection: ELISA AntibodiesImmune Checkpoint Detection: IP AntibodiesImmune Checkpoint Detection: WB AntibodiesImmune Checkpoint ProteinsImmune Checkpoint TargetsImmunotherapyTargeted Therapy

Reference

Slavik JM,et al.(1999) CD28/CTLA-4 and CD80/CD86 families: signaling and function. Immunol Res. 19(1): 1-24.
Holmberg D,et al.(2005) CTLA-4 (CD152) and its involvement in autoimmune disease. Autoimmunity. 38(3): 225-33.
Chin LT,et al.(2008) Immune intervention with monoclonal antibodies targeting CD152 (CTLA-4) for autoimmune and malignant diseases. Chang Gung Med J. 31(1): 1-15.

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