

CD70 Protein, Human, Recombinant (hFc & Avi), Biotinylated

General Information

Synonyms:	CD70 molecule;CD27LG;TNFSF7;CD27L
Protein Construction:	A DNA sequence encoding the human CD70 (NP_001243.1) (Gln39-Pro193) was expressed with a N-terminal Fc region of human IgG1 tagged AVI tag at the N-terminus. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Gly
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P32970-1
Molecular Weight:	45.7 kDa (predicted)

QC Testing

Biological Activity:	Immobilized Human CD27 (His & hFc Tag) at 2 µg/mL (100 µL/well) can bind Human CD70 (ECD, hFc & AVI Tag), Biotinylated, the EC50 is 8-68ng/mL.
Purity:	> 80 % 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

CD70, a member of the tumor necrosis factor superfamily, is restricted to activated T-and B-lymphocytes and mature dendritic cells. Binding of CD70 to its receptor, CD27, is important in priming, effector functions, differentiation and memory formation of T-cells as well as plasma and memory B-cell generation. Tight control of

CD70 expression is required to prevent lethal immunodeficiency. By selective transcription, CD70 is largely confined to activated lymphocytes and dendritic cells (DC). As a type II transmembrane receptor, CD70 is normally expressed on a subset of B, T and NK cells, where it plays a costimulatory role in immune cell activation. Immunohistochemical analysis of CD70 expression in multiple carcinoma types. The restricted expression pattern of CD70 in normal tissues and its widespread expression in various malignancies makes it an attractive target for antibody-based therapeutics. Investigations to exploit CD70 as a cancer target have led to the identification of potential antibody-based clinical candidates. Cancer Immunotherapy Co-stimulatory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Proteins Immune Checkpoint Targets Immunotherapy Targeted Therapy

Reference

Adam PJ, et al. (2006) CD70 (TNFSF7) is expressed at high prevalence in renal cell carcinomas and is rapidly internalised on antibody binding. *Br J Cancer*. 95(3): 298-306.

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Grewal IS. (2008) CD70 as a therapeutic target in human malignancies. *Expert Opin Ther Targets*. 12(3): 341-51.

Boursalian TE, et al. (2009) Targeting CD70 for human therapeutic use. *Adv Exp Med Biol*. 647: 108-19.

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