

# Fc-hCD70

Soluble human CD70 fused to an IgG1 Fc domain

Cat. code: fc-hcd70

<https://www.invivogen.com/cd70-fc>

For research use only

Version 24D23-NJ

## PRODUCT INFORMATION

### Contents:

- 50 µg of lyophilized Fc-hCD70 protein
- 1.5 ml endotoxin-free water

### Protein construction:

Codon-optimized human CD70 N-terminal extracellular domain [Q39-P193] with an N-terminal human IgG1 Fc-tag

**Accession sequence:** NM\_001253.1 (native sequence)

**Species:** Human

**Source:** Chinese hamster ovary (CHO) cells

**Tag:** N-terminal human IgG1 Fc

**Total protein size:** 155 a.a. (secreted form)

**Molecular weight:** ~ 48 kDa (SDS-PAGE)

**Purification:** Protein G affinity chromatography

**Purity:** >91% (SDS-PAGE)

### Formulation:

0.2 µm filtered solution in sodium phosphate buffer with glycine, saccharose and stabilizing agents

### Storage:

- Product is shipped at room temperature. Store lyophilized Fc-hCD70 at -20 °C. Lyophilized product is stable for at least 1 year.
- Reconstituted Fc-hCD70 is stable for 1 month when stored at 4 °C and for 1 year when stored at -20 °C. Avoid repeated freeze-thaw cycles.

### Quality control:

- The size and purity of the protein is confirmed by SDS-PAGE.
- Fc-hCD70 is validated by flow cytometry using Jurkat-Lucia™ hCD27 cells, and by ELISA using an anti-hCD70 monoclonal antibody (mAb). The potency of Fc-hCD70 at triggering intracellular signaling is validated using Jurkat-Lucia™ hCD27 cells.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) is confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

## PRODUCT DESCRIPTION

Fc-hCD70 is a soluble human CD70 chimera protein generated by fusing the N-terminal extracellular domain of human CD70 (aa 39-193) to the C-terminus of a human IgG1 Fc domain with a cleavable TEV (Tobacco Etch Virus) sequence linker. Thus, depending on your applications, the IgG1 Fc domain can be removed using the TEV protease. Fc-hCD70 has an apparent molecular weight of ~48 kDa on an SDS-PAGE gel. It is expressed in CHO cells and purified by protein G affinity chromatography.

## BACKGROUND

CD70 (CD27L or TNFSF7) is a member of the TNFR family known as the ligand for CD27. The interaction of CD70 on antigen-presenting cells with CD27 on T cells promotes T cell activation and maturation, in concert with the T cell receptor engagement<sup>1-2</sup>. The CD70-CD27 pair is thus considered as a costimulatory immune checkpoint<sup>2</sup>. However, CD70 is also transiently expressed on T cells after their activation and is suggested to play a negative feedback function to control inflammatory T cell responses<sup>3</sup>.

**1. Jacobs, J. et al., 2015.** CD70: An emerging target in cancer immunotherapy. *Pharmacol Ther* 155, 1-10. **2. Flieswasser, T. et al., 2022.** The CD70-CD27 axis in oncology: the new kids on the block. *J Exp Clin Cancer Res* 41, 12. **3. O'Neill, R.E. et al., 2017.** T Cell-Derived CD70 Delivers an Immune Checkpoint Function in Inflammatory T Cell Responses. *J Immunol* 199, 3700-3710.

## APPLICATIONS

Fc-hCD70 can be used for:

- Screening of high-affinity anti-human CD70 monoclonal antibodies (mAbs) by ELISA
  - Screening of anti-human CD27 mAbs using competition assays.
- The optimal working concentration of Fc-hCD70 must be determined empirically for a given set of experimental conditions.

## METHODS

### Fc-hCD70 resuspension (100 µg/ml)

*Note: Ensure you see the lyophilized pellet before resuspension.*

- Add 500 µl of endotoxin-free water to the 50 µg vial and gently pipette until completely resuspended. Do not vortex.
- Prepare aliquots and store at -20°C or 4°C.

## RELATED PRODUCTS

Product	Cat. Code
Jurkat-Raji CD27/CD70 assay	rajkt-cd27
Jurkat CD27/CD70 assay	jklt-cd27
hCD27-Fc	fc-hcd27
Jurkat-Raji PD-1/PD-L1 assay	rajkt-hpd1
hPD1-Fc	fc-hpd1
hPD-L1-Fc	fc-hpd1l

## TECHNICAL SUPPORT

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