

hCD27-Fc

Soluble human CD27 fused to an IgG1 Fc domain

Cat. code: fc-hcd27

<https://www.invivogen.com/cd27-fc>

For research use only

Version 24D23-NJ

PRODUCT INFORMATION

Contents:

- 50 µg of lyophilized hCD27-Fc protein
- 1.5 ml endotoxin-free water

Protein construction:

Codon-optimized human CD27 N-terminal extra cellular domain [A20-R191] with a C-terminal human IgG1 Fc-tag

Accession sequence: NM_001242.4 (native sequence)

Species: Human

Source: Chinese hamster ovary (CHO) cells

Tag: C-terminal human IgG1 Fc

Total protein size: 172 a.a. (secreted form)

Molecular weight: ~ 55 kDa (SDS-PAGE)

Purification: Protein G affinity chromatography

Purity: >95% (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 hCD27-Fc at -20 °C. Lyophilized product is stable for at least 1 year.
- Reconstituted hCD27-Fc 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.
- hCD27-Fc is validated by flow cytometry using Raji-APC-Null cells, and by ELISA using an anti-hCD27 monoclonal antibody (mAb).
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) is confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

PRODUCT DESCRIPTION

hCD27-Fc is a soluble human CD27 chimera protein generated by fusing the N-terminal extracellular domain of human CD27 (aa 20-191) to the N-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. hCD27-Fc has an apparent molecular weight of ~55 kDa on an SDS-PAGE gel. It is expressed in CHO cells and purified by protein G affinity chromatography.

BACKGROUND

CD27 is a member of the TNFR family known as the sole receptor for CD70 (aka CD27L). The CD27-CD70 costimulatory receptor-ligand pair plays an important role in immune regulation. In concert with the T cell receptor crosslinking, it promotes T cell activation, proliferation, survival, maturation of effector capacity, and T cell memory¹⁻². The CD70-CD27 pair is thus considered as a costimulatory immune checkpoint³. In humans, CD27 is constitutively expressed on the majority of T cells, memory B cells and plasma cells, and natural killer (NK) cells. It is also expressed on various types of hematologic cancers. In leukemia, CD27 signaling leads to the induction of different pathways, supporting stemness, tumor cell proliferation, and self-renewal³.

1. Jacobs, J. et al., 2015. CD70: An emerging target in cancer immunotherapy. *Pharmacol Ther* 155, 1-10. **2. Sanborn RE, et al., 2022.** Safety, tolerability and efficacy of agonist anti-CD27 antibody (varlilumab) administered in combination with anti-PD-1 (nivolumab) in advanced solid tumors. *J Immunother Cancer*. 2022 Aug;10(8):e005147. **3. Flieswasser, T. et al., 2022.** The CD70-CD70 axis in oncology: the new kids on the block. *J Exp Clin Cancer Res* 41, 12.

APPLICATIONS

hCD27-Fc can be used for:

- Screening of high-affinity anti-human CD27 monoclonal antibodies (mAbs) by ELISA
 - Screening of anti-human CD70 mAbs using competition assays.
- The optimal working concentration of hCD27-Fc must be determined empirically for a given set of experimental conditions.

METHODS

hCD27-Fc 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	jktl-cd27
Fc-hCD70	fc-hcd70
Jurkat-Raji PD-1/PD-L1 assay	rajkt-hpd1
hPD1-Fc	fc-hpd1
hPD-L1-Fc	fc-hpdl1

TECHNICAL SUPPORT

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