

IL-27 Protein, Human, Recombinant (His)

General Information

Synonyms:	IL27p28;IL-27;IL27A;interleukin 27;p28;IL-27A;IL30
Protein Construction:	A DNA sequence encoding the IL27 complex composed of IL27B subunit (NP_005746.2) (Met 1-Lys 229) and the N-terminally truncated IL27p28 (IL27A) subunit (NP_663634.2) (Phe 29-Pro 243) linked by a polypeptide linker was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Arg 21
Species:	Human
Expression Host:	CHO Cells
Accession:	NP_005746.2&NP_663634.2
Molecular Weight:	56 kDa (predicted); 56 kDa (reducing conditions)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. Immobilized human IL27-His at 10 µg/ml (100 µl/well) can bind human IL27RA-Fc , The EC50 of human IL27RA-Fc is 0.2-0.46 µg/ml. 2. Measured in antiviral assays using HepG2 cells infected with vesicular stomatitisvirus(VSV). The ED50 for this effect is typically 23-92 ng/mL.
Purity:	> 90 % 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 20 mM MOPS, 150 mM NaCl, 0.05% CHAPS, PH7.0. 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:	Reconstituted with sterile deionized water to 0.1 mg/mL. Reconstitution conditions may vary depending on the lot.
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. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

IL-27 protein is a member of the IL-6 superfamily, which is expressed on monocytes, endothelial cells, and dendritic cells. IL-27 protein is also referred to as the IL-12 p35-related protein, p28, is one subunit of a heterodimeric cytokine complex, and associates with another subunit EB13 (EBV-induced gene 3), and IL-12 p40-related protein (IL-27B). IL-27 protein is an early product of activated antigen-presenting cells and drives the rapid clonal expansion of naive CD4(+) T cells and plays a role in the early regulation of Th1 cells initiation which drives efficient adaptive immune response. IL-27 protein has an antiproliferative activity on melanomas through WSX-1/STAT1 signaling. Thus, IL-27 protein may be an attractive candidate as an antitumor agent applicable to cancer immunotherapy.

Reference

Hisada M, et al. (2004) Potent antitumor activity of interleukin-27. *Cancer Res.* 64(3): 1152-6.

Larousserie F, et al. (2005) Analysis of interleukin-27 (EB13/p28) expression in Epstein-Barr virus- and human T-cell leukemia virus type 1-associated lymphomas: heterogeneous expression of EB13 subunit by tumoral cells. *Am J Pathol.* 166(4): 1217-28.

Seita J, et al. (2008) Interleukin-27 directly induces differentiation in hematopoietic stem cells. *Blood.* 111(4): 1903-12.

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