

## General Information

Synonyms	Human IL27; IL-27; IL27; IL-27 subunit alpha; IL27A; IL-27-A; IL27-A; IL27p28; interleukin 27
Accession #	Q14213.2 (IL-27EBI3) & AAM34498 (IL-27p28)
Source	Human embryonic kidney cell, HEK293-derived human IL-27 protein
	IL-27 EBI-3(Arg21-Lys229),IL-27 p28(Phe29-Pro243)
Predicted Molecular weight	56.0 kDa

## Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer . This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
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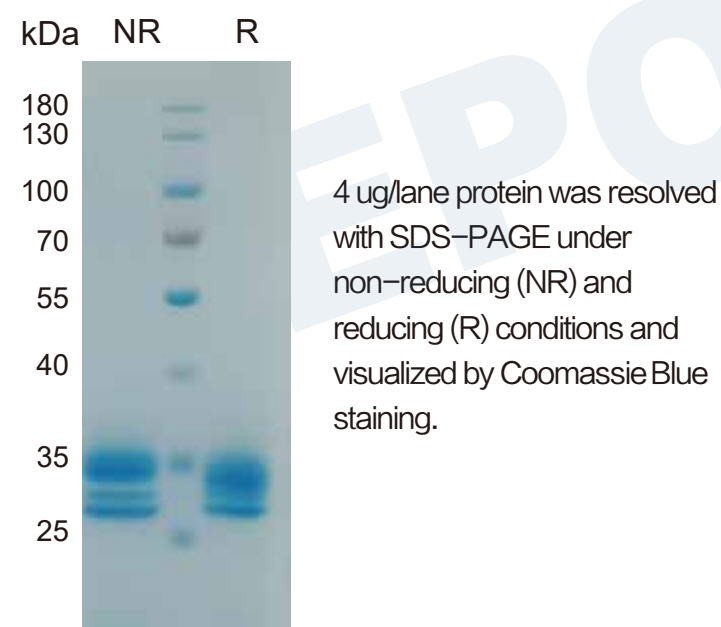
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 ° C as supplied.
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Shipping	Shipping with dry ice
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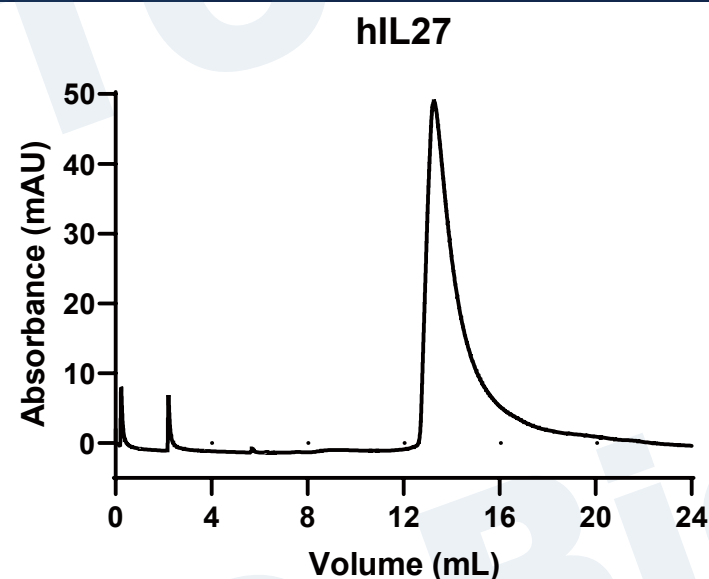
## Quality

Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in an anti-viral assay using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus. The EC50 for this effect is 1-6 ng/mL.

## SDS-PAGE

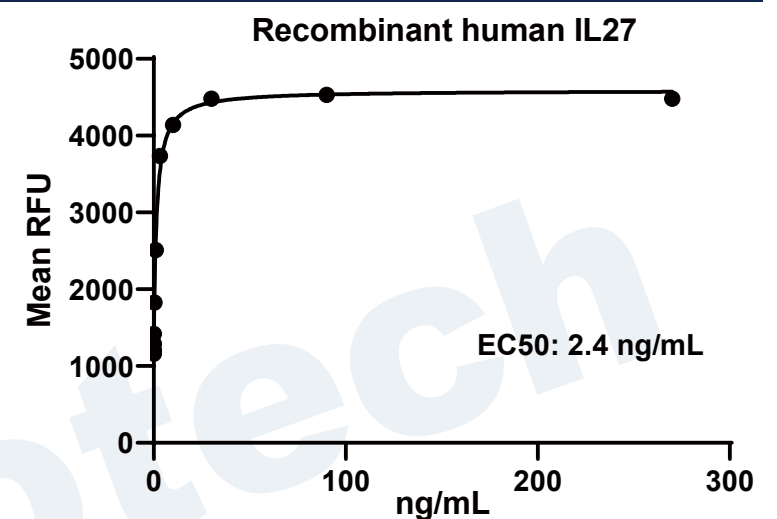


## Gel filtration



Size-exclusion chromatography of recombinant human IL27 protein (280 nm absorbance)

## Bioactivity



Recombinant human IL27 (Catalog # HF-1027) anti-viral activity using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus.

## Background

**Interleukin-27 (IL-27)** is a heterodimeric group 2 receptor ligand molecule that belongs to the IL-6/IL-12 family of long type I cytokines (1). It is composed of EBI3 (EBV-induced gene 3), a 34 kDa glycoprotein that is related to the p40 subunit of IL-12 and IL-23, and p28, the 28 kDa glycoprotein that is related to the p35 chain of IL-12 (2-4). The human EBI3 gene encodes a 229 amino acid (aa) precursor that contains a 20 aa signal peptide and 209 aa mature protein (5). The mature region contains two potential N-linked glycosylation sites, two fibronectin type III domains, and two pairs of conserved cysteine residues with a WSXWS-like motif that places the molecule in the hematopoietin receptor family (5). Although p40, the EBI3 counterpart in IL-12, is known to form homodimers, there is no evidence to date that EBI3 also homodimerizes. Human EBI3 is 61% aa identical to mouse EBI3. The human p28 gene encodes a 243 aa precursor that contains a 28 aa signal sequence and 215 aa mature region (6). The mature region is characterized by the presence of four alpha-helices, placing it in the IL-6 family of helical cytokines. Human p28 is 74% aa identical to mouse p28. IL-27 is expressed by monocytes, endothelial cells and dendritic cells (7). IL-27 binds to and signals through a heterodimeric receptor complex composed of WSX-1 (TCCR) and gp130. Evidence suggests IL-27 interacts only with WSX-1 (6, 8, 9). IL-27 has both anti- and proinflammatory properties. As an anti-inflammatory, IL-27 seems to induce a general negative feedback program that limits T and NK-T cell activity (3, 7). At the onset of infection, IL-27 induces an IL-12 receptor on naive CD4+ T cells, making them susceptible to subsequent IL-12 activity (and possible Th1 development) (10).

## Reference

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