

Active Recombinant Human EBI3/p28 protein, His-tagged

Cat. No. EBI3-256H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human EBI3(Arg21-Lys229) and p28(Phe29-Pro243) fused with His tag at C-terminal was expressed in NS0.
Species	Human
Source	Mammalian Cells
ProteinLength	21-229;29-243 a.a.
Description	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. 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). The human EBI3 gene encodes a 229 amino acid (aa) precursor that contains a 20 aa signal peptide and 209 aa mature protein. 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 IL-27 molecule in the hematopoietin receptor family. 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. The mature region is characterized by the presence of four α-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. IL-

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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. IL-27 has both anti- and pro-inflammatory properties. As an anti-inflammatory, IL-27 seems to induce a general negative feedback program that limits T and NK-T cell activity. At the onset of infection, IL-27 induces an IL-12 receptor on naïve CD4+ T cells, making them susceptible to subsequent IL-12 activity (and possible Th1 development).

Predicted N Terminal	Arg21
Form	Supplied as a 0.2 µm filtered solution in HEPES, NaCl, EDTA and CHAPS.
Bio-activity	Measured in an anti-viral assay using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus. Bender H. et al. (2009) Hepatology 50:585. The ED50 for this effect is typically 1-8 ng/mL.
Molecular Mass	Predicted Molecular Mass: 50 kDa;SDS-PAGE: 60 kDa, reducing conditions
Endotoxin	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Stability	Avoid repeated freezethaw cycles.12 months from date of receipt, - 70 centigrade as supplied.1 month, 2 to 8 centigrade under sterile conditions after opening.3 months, - 20 to - 70 centigrade under sterile conditions after opening.

GENE INFORMATION

Gene Name	EBI3 Epstein-Barr virus induced 3 [Homo sapiens]
Official Symbol	EBI3

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Synonyms	EBI3; Epstein-Barr virus induced 3; interleukin-27 subunit beta; IL27 subunit; IL35 subunit; cytokine receptor; IL-27 subunit beta; EBV-induced gene 3 protein; Epstein-Barr virus induced gene 3; epstein-Barr virus-induced gene 3 protein; IL27B; IL-27B;
Gene ID	10148
mRNA Refseq	NM_005755
Protein Refseq	NP_005746
MIM	605816
UniProt ID	Q14213
Chromosome Location	19p13
Pathway	IL27-mediated signaling events, organism-specific biosystem;
Function	cytokine activity; cytokine receptor activity; interleukin-27 receptor binding;