



## Interleukin-27, mouse recombinant (rmIL-27)

**Catalog No:** 97113  
**Lot No:** XXXXX  
**Source:** *E. coli*  
**Synonyms:** Interleukin-30, IL-30, IL-27/p28, p28, Interleukin-27, Interleukin-27/p28, IL-27, Interleukin-27 subunit alpha, IL-27 subunit alpha, IL27-A, Il27, Il27a, IL-27p28

### Background

Interleukin-27 protein is related to IL-12A & is one of the subunits of a heterodimeric cytokine complex. IL-27 interacts with EBV induced gene 3 also called EB13, and forms a complex that drives rapid expansion of CD4 (+) T cells. IL-27 complex synergizes with IL-12 in order to trigger the cytokine production of IFN-Gamma of CD4 (+) T cells. The biological effect of IL-27 is mediated by class-I cytokine receptor (WSX1/TCRR). The pro-inflammatory activity of IL-27 is mediated through the growing expression of key molecules involved in the MHC class-I & MHC class-II pathways. Both MHC class-I and MHC-class-II expression are increased in endothelial cells after Interleukin-27 stimulation which suggests that it may play an important role in conferring the immune function on vascular endothelium IL-27p28 subunit can be induced by IFN-beta and during LPS-induced maturation of dendritic cells in type-I IFN-dependent manner through IFN regulatory factor-1 activation. Interleukin-27 regulates Interleukin-12 responsiveness of CD4+ T cells through Stat1-dependent and -independent mechanisms. IL-17 & IL-23 play an important IL-17 role in inflammation. Interleukin-27 possesses potent anti-angiogenic activity that plays an important role in its antitumor and antimetastatic activities. EBV induced gene 3 plays a role, independently from IL-27, in regulating anti-viral or anti-tumoral immune responses. Interleukin-27 is a potent inhibitor of HIV-1 replication in macrophages, CD4+ T cells, peripheral blood mononuclear cells. Interleukin-27 triggers STAT activation and gene transcription.

### Description

Interleukin-27 mouse recombinant produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 207 amino acids and having a molecular mass of 23.7 kDa. IL-27 is purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

### Formulation

Lyophilized from 10 mM sodium phosphate (NaP) buffer pH 7.5.

### Solubility

It is recommended to reconstitute the lyophilized Interleukin-27 in sterile 18 MΩ-cm H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

### Stability

Lyophilized IL-27, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IL27 should be stored at 4°C between 2-7 days and for future use below -18°C. Please prevent freeze-thaw cycles.

### Purity

Greater than 95.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

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### Amino Acid Sequence

MFPTDPLSLQ ELRREFTVSL YLARKLLSEV QGYVHSFAES RLPGVNLDLL PLGYHLPNVS LTFQAWHHS DSERLCFLAT  
TLRPFPA MLG GLGTQGTWTS SEREQLWAMR LDLRDLHRHL RFQVLAAGFK CSKEEEDKKE EEEEEEEKK LPLGALGGPN  
QVSSQVSWPQ LLYTYQLLHS LELVLSRAVR DLLL LSLPRR PGSAWDS

### Activity

Mouse p28 biological activity was measured via dose-dependent inhibition of TGF-beta and IL-6-induced IL-17A expression in mouse CD4 splenocytes. 50 ng/ml corresponding to a specific activity of 20,000 IU/mg of mouse p28 is capable of inhibiting >25% of IL-17A expression in this assay.

### Usage

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