Human IL27 / Interleukin-27 Protein (His Tag)

Catalog Number: **10076-H08S**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

p28, IL30, IL-27, IL-27A, IL27p28, MGC71873, IL27

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 an polypeptide linker was fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: CHO Stable Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio-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 (Cat:10489-H02H), The EC50 of human IL27RA-Fc (Cat:10489-H02H) 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 5-20 ng/mL.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Arg 21

Molecular Mass:

The recombinant human IL27 complex (IL27B & IL27A) consists of 450 amino acids after removal of the signal peptide and has a calculated molecular mass of 56 KDa as estimated in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, 10% glycerol

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

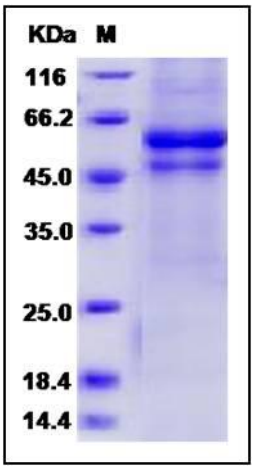
Usage Guide

Storage:

Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

IL27A, also referred as the IL12 p35-related protein, p28, is one subunit of a heterodimeric cytokine complex, and associates with another subunit EBI3 (EBV-induced gene 3), an IL12 p40-related protein (IL27B). IL-27 is a cytokine with pro- and anti-inflammatory properties, that can regulate T helper cell development, suppress T-cell proliferation, stimulate cytotoxic T cell activity, induce isotype switching in B-cells, and that has diverse effects on innate immune cells. Among its target cells are CD4 T helper cells which can differentiate in type 1 effector cells (TH1), type 2 effector cells (TH2) and IL17 producing helper T-cells (TH17). It drives rapid clonal expansion of naive but not memory CD4 T-cells. It also strongly synergizes with IL-12 to trigger interferon-gamma / IFN-gamma production of naive CD4 T-cells, binds to the cytokine receptor WSX-1 / TCCR which appears to be required but not sufficient for IL-27-mediated signal transduction. IL-27 potentiate the early phase of TH1 response and suppress TH2 and TH17 differentiation. It induces the differentiation of TH1 cells via two distinct pathways, p38 MAPK / TBX21- and ICAM1 / ITGAL / ERK-dependent pathways. IL-27 also induces STAT1, STAT3, STAT4 and STAT5 phosphorylation and activates TBX21/T-Bet via STAT1 with resulting IL12RB2 up-regulation, an event crucial to TH1 cell commitment. IL-27 suppresses the expression of GATA3, the inhibitor TH1 cells development. IL-27 reveals to be a potent inhibitor of TH17 cell development and of IL-17 production. IL-27 also antagonizes the effects of some cytokines such as IL6 through direct effects on T cells. Another important role of IL-27 is its antitumor activity and antiangiogenic activity.

References

1. Pflanz S. et al., 2002, Immunity. 16: 779-90.
2. Hibbert L. et al., 2003, J. Interferon Cytokine Res. 23: 513-22.
3. Fakruddin JM. et al., 2007, Blood. 109: 1841-9.
4. Feng XM. et al., 2007, Hum Immunol. 68: 965-72.
5. Chae S-C. et al., 2007, J Hum Genet. 52: 355-61.