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IL-27 Antibody

Catalog # ASC10417

Product Information

Application	WB, ICC, E
Primary Accession	Q8NEV9
Other Accession	NP_663634, 28416913
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	27493
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	IL-27 antibody can be used for the detection of IL-27 by Western blot at 2 - 4 g/mL. Antibody can also be used for immunocytochemistry starting at 10 g/mL.

Additional Information

Gene ID	246778
Other Names	IL-27 Antibody: p28, IL30, IL-27, IL27A, IL-27A, IL27p28, Interleukin-27 subunit alpha, p28, IL-27 subunit alpha, interleukin 27
Target/Specificity	IL27;
Reconstitution & Storage	IL-27 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	IL-27 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IL27
Synonyms	IL27A, IL30
Function	Associates with EBI3 to form the IL-27 interleukin, a heterodimeric cytokine which functions in innate immunity. IL-27 has 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. It 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. It suppresses the expression of GATA3, the inhibitor TH1 cells development. In CD8 T-cells, it activates STATs as well as GZMB. IL-27 reveals to be a potent inhibitor of TH17 cell development and of IL-17 production. Indeed IL27 alone is also able to inhibit the production of IL17 by CD4 and CD8 T-cells. While IL-27 suppressed the development of pro-inflammatory Th17 cells via STAT1, it inhibits the development of anti-inflammatory inducible regulatory T-cells, iTreg, independently of STAT1. IL-27 also has an effect on cytokine production, it suppresses pro-inflammatory cytokine production such as IL2, IL4, IL5 and IL6 and activates suppressors of cytokine signaling such as SOCS1 and SOCS3. Apart from suppression of cytokine 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 as well as its antiangiogenic activity with activation of production of antiangiogenic chemokines such as IP-10/CXCL10 and MIG/CXCL9. In vein endothelial cells, it induces IRF1/interferon regulatory factor 1 and increase the expression of MHC class II transactivator/CIITA with resulting up-regulation of major histocompatibility complex class II. IL-27 also demonstrates antiviral activity with inhibitory properties on HIV-1 replication.
Cellular Location	Secreted. Note=Does not seem to be secreted without coexpression of EBI3
Tissue Location	Expressed in monocytes and in placenta.

Background

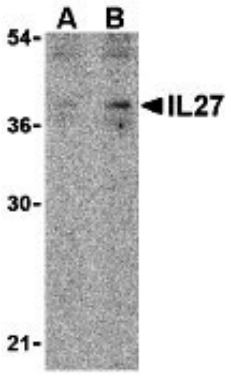
IL-27 Antibody: Like interleukin-23 (IL-23), IL-27 is a recently discovered member of the IL-6/IL-12 family of proinflammatory and immunoregulatory cytokines. It exists as a heterodimer composed of the p40-related protein EBI3 and an IL-12 p35-related protein termed p28. IL-27 is produced after activation by antigen-presenting cells and induces proliferation of na□ve but not memory CD4+ T-cells. It acts by binding to its receptor WSX-1 and gp130 which results in the activation of a Jak/STAT signaling cascade, suggesting the IL-27 is involved in the regulation of immune processes. It has been suggested that IL-27 can also be used as a therapeutic agent against cancer as it can also induce tumor-specific anti-tumor activity mediated through CD8+ T-cells, IFN-gamma, and T-bet.

References

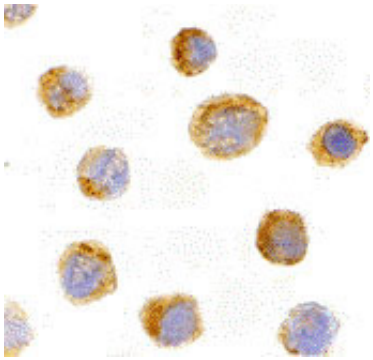
Hunter CA. New IL-12-family members: IL-23 and IL-27, cytokines with divergent functions. Nat. Rev. Immunol. 2005; 5:521-31.
Pfanz S, Hibbert L, Mattson J, et al. WSX-1 and glycoprotein 130 constitute a signal-transducing receptor for IL-27. J. Immunol. 2004; 172:2225-31.
Hisada M, Kamiya S, Fujita K, et al. Potent antitumor activity of interleukin-27. Cancer Res. 2004; 64:1152-6.

Images

Western blot analysis of IL-27 in EL4 lysate with IL-27



antibody at (A) 2 and (B) 4 µg/mL.



Immunocytochemistry of IL-27 in EL4 with IL-27 antibody at 10 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.