

Product datasheet

Anti-IL27 antibody [3H12] ab123247

1 Image

Overview

Product name	Anti-IL27 antibody [3H12]
Description	Rat monoclonal [3H12] to IL27
Host species	Rat
Tested applications	Suitable for: WB, IP, ELISA, Flow Cyt
Species reactivity	Reacts with: Mouse
Immunogen	Recombinant full length Mouse IL27.

Properties

Form	Liquid
Storage instructions	Store at +4°C short term (1-2 weeks). Aliquot and store at -20°C long term. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.20 Constituents: 0.27% Potassium phosphate, 0.88% Sodium chloride
Clonality	Monoclonal
Clone number	3H12
Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab123247 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 27 kDa.
IP		Use at an assay dependent concentration.

Application	Abreviews	Notes
ELISA		Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. ab18450 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target

Function

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. 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 IL-27 subunit p28 alone is also able to inhibit the production of IL17 by CD4 and CD8 T-cells. While IL-27 suppressed the development of proinflammatory Th17 cells via STAT1, it inhibits the development of anti-inflammatory inducible regulatory T-cells, iTreg, independently of STAT1. IL-27 has also an effect on cytokine production, it suppresses proinflammatory 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 IRF 1/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 replivation.

Tissue specificity

Expressed in monocytes and in placenta.

Sequence similarities

Belongs to the IL-6 superfamily.

Post-translational modifications

O-glycosylated.

Cellular localization

Secreted. Does not seem to be secreted without coexpression of EB13.

Images

Other - Anti-IL27 antibody [3H12] (ab123247)

Mouse macrophages were cultured with (B) IFN γ and LPS for 24 hours or remained unstimulated (A). Cells were treated with a protein transport inhibitor for 4 hours and stained with anti-CD107b at the surface and an intracellular stain with anti-p28 clone 3H12.

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