10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-Mouse IL-27/p28 (RAT) Monoclonal Antibody

Mouse IL-27/p28 Antibody
Catalog # ASR5033

Specification

Anti-Mouse IL-27/p28 (RAT) Monoclonal Antibody - Product Information

Host	**Rat**
Conjugate	**Unconjugated**
Target Species	**Mouse**
Reactivity	**Mouse**
Clonality	**Monoclonal**
Application	**WB, E, I, LCI**
Application Note	**IL-27 is expressed in activated antigen presenting cells including monocytes, endothelial cells, and dendritic cells, for example mouse CD4 splenocytes. This purified antibody has been tested for use in Flow Cytometry, ELISA and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 26 KDa in size corresponding to the mature mouse p28 protein, a non-glycosylated polypeptide chain consisting of amino acids, by western blotting in appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**Anti-IL-27/p28 monoclonal antibody was produced in rats by repeated immunizations with mature length recombinant mouse p28 protein (produced in E.coli) followed by hybridoma development.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Mouse IL-27/p28 (RAT) Monoclonal Antibody - Additional Information

Gene ID 246779

Other Names
246779

Purity
IL-27 / p28 antibody is purified by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. This antibody is specific for mouse and rat p28 protein. Cross-reactivity with IL-27 from other sources has not been determined.

Storage Condition
Store vial at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Mouse IL-27/p28 (RAT) Monoclonal Antibody - Protein Information

Name Il27

Synonyms Il27a

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.

Cellular Location
Secreted. Note=Poorly secreted without coexpression of EBI3

Tissue Location
Expressed in macrophages and dendritic cells.

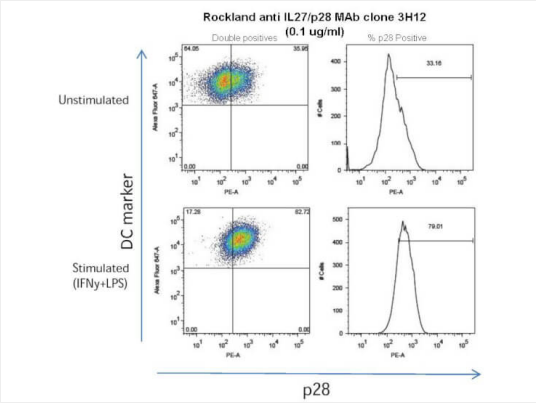
Anti-Mouse IL-27/p28 (RAT) Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot

- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Mouse IL-27/p28 (RAT) Monoclonal Antibody - Images



Mouse peritoneal macrophages were grown in culture for 24 hours, stimulated with 10ng/mL IFN gamma and 1ug/mL LPS for 14 hours and incubated for 4 hours with Bredfeldin A. Cells were harvested, washed, aliquoted 1x106 cells per sample, and fixed and permeabilized according to a standard protocol. Samples were stained with biotinylated primary anti-mouse p28 antibody at (0.1-10ug/mL primary antibody alongside negative controls of unstimulated cells and isotype controls. Cells were stained with 0.25ug/mL rat anti-mouse CD107b conjugated Alexa Fluor 647 and PHYCOERYTHRIN Conjugated secondary at 1:100 and analyzed by flow cytometry. Stimulated cells showed increase PE staining (horizontal axis) when compared with unstimulated cells.

Anti-Mouse IL-27/p28 (RAT) Monoclonal Antibody - Background

Mouse IL-27/p28 Subunit, also known as Interleukin-30, is a member of the IL-12 family of cytokines. When combined with EBI3 (Epstein-Barr virus induced gene 3), the heterodimer formed is IL-27. Mouse p28 is a proinflammatory cytokine inducing immunomodulatory effects. Current research is underway to delineate specific biological functions.