Mouse IL-27 PE-conjugated Antibody

Monoclonal Rat IgG_{2B} Clone # 234205

Catalog Number: IC1834P

100 Tests

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-27 in Western blots. This antibody recognizes the p28 subunit either as part of a p28/EBI-3 heterodimer or as a free subunit.
Source	Monoclonal Rat IgG_{2B} Clone # 234205
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant mouse IL-27 Tyr19-Pro228 (EBI3) & Phe29-Ser234 (p28) Accession # O35228 (EBI3) & Q8K3I6 (p28)
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

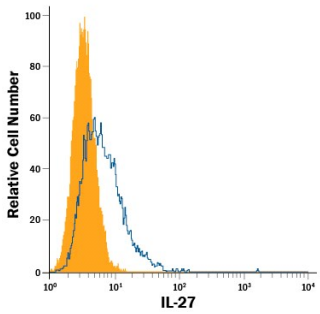
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	10 µL/10^6 cells	See Below

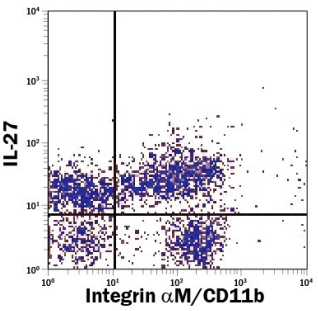
DATA

Intracellular Staining by Flow Cytometry



Detection of IL-27 in RAW 264.7 Mouse Cell Line by Flow Cytometry. RAW 264.7 mouse monocyte/macrophage cell line was stained with Rat Anti-Mouse IL-27 PE-conjugated Monoclonal Antibody (Catalog # IC1834P, filled histogram) or isotype control antibody (Catalog # IC013P, open histogram). View our protocol for Staining Intracellular Molecules.

Intracellular Staining by Flow Cytometry



Detection of IL-27 in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were stained with Rat Anti-Mouse IL-27 PE-conjugated Monoclonal Antibody (Catalog # IC1834P) and Rat Anti-Mouse Integrin αM/CD11b APC-conjugated Monoclonal Antibody (Catalog # FAB1124A). Quadrant markers were set based on control antibody staining (Catalog # IC013P). View our protocol for Staining Intracellular Molecules.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

IL-27 is a non-covalent heterodimeric molecule that belongs to the IL-6/IL-12 family of long type I cytokines. It is composed of EBI3 (EBV-induced gene 3), a 33-34 kDa glycoprotein that is related to the p40 subunit of IL-12 and IL-23, and p28, the 28-30 kDa glycoprotein that is related to the p35 chain of IL-12. The mouse EBI3 gene encodes a 228 amino acid (aa) precursor that contains an 18 aa signal peptide and 210 aa mature protein. The mature region contains two potential N-linked glycosylation sites, two fibronectin type III domains, and two pairs of conserved cysteine residues with a WSXWS-like motif that places the molecule in the hematopoietin receptor family. Although p40, the EBI3 counterpart in IL-12, is known to form homodimers, there is no evidence to date that EBI3 also homodimerizes. EBI3 is known to heterodimerize with the IL-12 p35 subunit to form IL-35. Mature mouse EBI3 shares 91% and 61% aa sequence identity to mature rat and human EBI3, respectfully. The mouse p28 gene encodes a 234 aa precursor that contains a 28 aa signal sequence and 206 aa mature region. The mature region is characterized by the presence of four α-helices, placing it in the IL-6 family of helical cytokines. Mature mouse p28 shares 89% and 70% aa sequence identity with mature rat and human p28, respectfully. IL-27 is expressed by monocytes, endothelial cells and dendritic cells. IL-27 binds to and signals through a heterodimeric receptor complex composed of WSX-1 (TCCR) and gp130. Evidence suggests IL-27 interacts only with WSX-1. In addition, and in mouse but not human, p28 is secreted as a monomer and appears to activate the IL-6R complex. This is consistent with the observation that p28 also heterodimerizes with CLF1, and signals through the IL-6R:gp130 complex. IL-27 has both anti- and proinflammatory properties. As an anti-inflammatory, IL-27 seems to induce a general negative feedback program that limits T and NK-T cell activity. At the onset of infection, IL-27 induces an IL-12 receptor on naïve $CD4^+$ T cells, making them susceptible to subsequent IL-12 activity that generates Th1 cells at the expense of Th2 and Th17 cells. Finally, IL-27 upregulates both MHC-II and chemokine (CXCL9; CXCL10) expression on vascular endothelium, suggesting a role for IL-27 in vascular inflammation.

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