

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-27 p28/IL-30 in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse IL-27 p28/IL-30 Phe29-Ser234 Accession # Q8K316
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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
Western Blot	0.1 µg/mL	Recombinant Mouse IL-27 p28/IL-30

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

IL-27 is a heterodimeric group 2 receptor ligand molecule that belongs to the IL-6/IL-12 family of long type I cytokines (1). It is composed of EBI3 (EBV-induced gene 3), a 34 kDa glycoprotein that is related to the p40 subunit of IL-12 and IL-23, and p28, the cloned 28 kDa glycoprotein that is related to the p35 chain of IL-12 (2-4). The mouse EBI3 gene encodes a 228 amino acid (aa) precursor that contains an 18 aa signal peptide and a 210 aa mature protein (5). The mature region contains two potential N-linked glycosylation sites, two fibronectin type III domains, and two pairs of conserved cysteine residues that place the molecule in the type I cytokine receptor family (5). As with p40, (the EBI3 counterpart in IL-12), IL-27 EBI3 is reported to form homodimers (6). Mouse EBI3 is 61% and 66% aa identical to human and bovine EBI3. The mouse p28 gene encodes a 234 aa precursor that contains a 28 aa signal sequence and a 206 aa mature region (7). The mature region is characterized by the presence of one potential N-linked glycosylation site and four α-helices, placing it in the IL-6 family of helical cytokines. Mouse p28 is 74% aa identical to human p28. IL-27 is expressed by monocytes, endothelial cells and dendritic cells (8). 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 (7, 9, 10). 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 (3, 8). 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 (and possible Th1 development) (6). Notably, IL-12 family cytokines are both induced and inhibited by bacterial products. Microbes promote IL-27 secretion through TLR4, and also block IL-27 production via C5a induction (11).

References:

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