

## DESCRIPTION

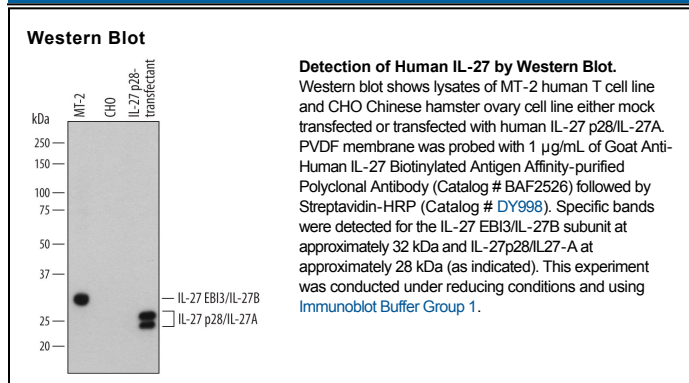
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-27 in ELISAs and Western blots. In sandwich immunoassays, less than 0.2% cross-reactivity with recombinant mouse IL-27, recombinant human (rh) IL-12, and rhIL-12 p40 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human IL-27 (R&D Systems, Catalog # 2526-IL) Arg21-Lys229 (IL-27 EBI-3 subunit), Phe29-Pro243 (IL-27 p28 subunit) Accession # Q14213 (EBI-3 subunit), AAM34498 (p28 subunit)
<b>Formulation</b>	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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	See Below
<b>Human IL-27 Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	0.2-0.8 µg/mL	Human IL-27 Antibody (Catalog # <a href="#">AF2526</a> )
<b>ELISA Detection</b>	0.1-0.4 µg/mL	Human IL-27 Biotinylated Antibody (Catalog # <a href="#">BAF2526</a> )
<b>Standard</b>		Recombinant Human IL-27 (Catalog # <a href="#">2526-IL</a> )

## DATA



## PREPARATION AND STORAGE

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

**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), also known as IL27B, a 34 kDa glycoprotein that is related to the p40 subunit of IL-12 and IL-23, and p28, also known as IL27A, the 28 kDa glycoprotein that is related to the p35 chain of IL-12 (2-4). The human EBI3 gene encodes a 229 amino acid (aa) precursor that contains a 20 aa signal peptide and 209 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 with a WSXWS-like motif that places the molecule in the hematopoietin receptor family (5). Although p40, the EBI3 counterpart in IL-12, is known to form homodimers, there is no evidence to date that EBI3 also homodimerizes. Human EBI3 is 61% aa identical to mouse EBI3. The human p28 gene encodes a 243 aa precursor that contains a 28 aa signal sequence and 215 aa mature region (6). The mature region is characterized by the presence of four  $\alpha$ -helices, placing it in the IL-6 family of helical cytokines. Human p28 is 74% aa identical to mouse p28. IL-27 is expressed by monocytes, endothelial cells and dendritic cells (7). 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 (6, 8, 9). 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, 7). 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) (10).

**References:**

1. Boulay, J-L. *et al.* (2003) *Immunity* **19**:159.
2. Trinchieri, G. *et al.* (2003) *Immunity* **19**:641.
3. Murakami, M. *et al.* (2004) *Growth Factors* **22**:75.
4. Cordoba-Rodriguez, R. and D.M. Frucht (2003) *Exp. Opin. Biol. Ther.* **3**:715.
5. Devergne, O. *et al.* (1996) *J. Virology* **70**:1143.
6. Pflanz, S. *et al.* (2002) *Immunity* **16**:779.
7. Villarino, A.V. *et al.* (2004) *J. Immunol.* **173**:715.
8. Pflanz, S. *et al.* (2004) *J Immunol* **172**:2225.
9. Scheller, J. *et al.* (2005) *Biochem. Biophys. Res. Commun.* **326**:724.
10. Holscher, C. (2004) *Med. Microbiol. Immunol. (Berl)*.**193**:1.