

### DESCRIPTION

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived cynomolgus monkey IL-27 protein		
	Cynomolgus Monkey EBI-3 (Arg36-Lys244) Accession # XP_005587614.1	GSGSSRGSGSGSGGGGSKL	Cynomolgus Monkey IL-27a  *Unique sequence
	N-terminus		C-terminus

\* Unique Sequence: This gene was isolated from a cynomolgus monkey cDNA library. The closest match to the obtained sequence is a genomic prediction for rhesus monkey, Accession XP\_028697194.1 (Phe42-Pro254, A170T).

<b>N-terminal Sequence Analysis</b>	Arg36
<b>Predicted Molecular Mass</b>	50 kDa

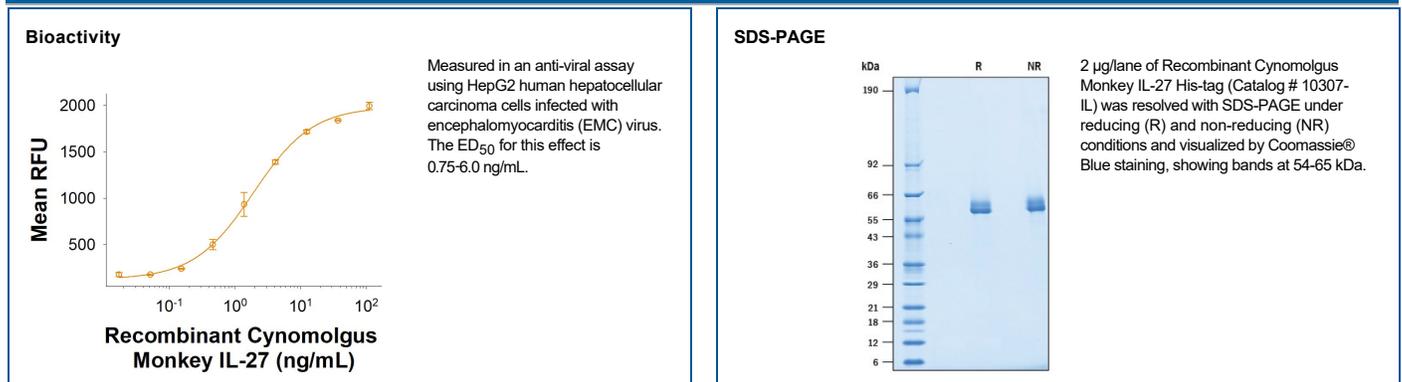
### SPECIFICATIONS

<b>SDS-PAGE</b>	54-65 kDa, under reducing conditions
<b>Activity</b>	Measured in an anti-viral assay using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus. Sheppard, P. <i>et al.</i> (2003) Nat. Immunol. 4:63. The ED <sub>50</sub> for this effect is 0.75-6.0 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with trehalose. See Certificate of Analysis for details.

### PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 100 µg/mL in 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>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

### DATA



**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 EB13 (EBV-induced gene 3), a 50 kDa glycoprotein that is related to the p40 subunit of IL-12 and IL-23, and p28, a 28 kDa glycoprotein that is related to the p35 chain of IL-12 (2-4). The Cynomolgous EB13 gene encodes a 244 amino acid (aa) precursor that contains a 36 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 EB13 counterpart in IL-12, is known to form homodimers, there is no evidence to date that EB13 also homodimerizes. Cynomolgous monkey EB13 is 94% aa identical to Human EB13. The Cynomolgous monkey p28 gene encodes a 254 aa precursor that contains a 41 aa signal sequence and 214 aa mature regions. The mature region is characterized by the presence of four alpha -helices, placing it in the IL-6 family of helical cytokines. Cynomolgous monkey p28 is 92% aa identical to human 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 (6, 8, 9). IL-27 has both anti- and proinflammatory properties. As an anti-inflammatory cytokine, 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:**

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6. Pflanz, S. *et al.* (2002) *Immunity* **16**:779.
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