

## DESCRIPTION

<b>Source</b>	Human embryonic kidney cell, HEK293-derived cynomolgus monkey IL-12 protein		
	Cynomolgus Monkey IL-12p40 (Ile23-Ser328) Accession # NP_001274204	GGGSGGGSGGGS	Cynomolgus Monkey IL-12p35 (Arg57-Ser253) Accession # XP_005546300
	N-terminus		C-terminus
<b>N-terminal Sequence</b>	Ile23		
<b>Analysis</b>			
<b>Structure / Form</b>	Disulfide-linked heterodimer		
<b>Predicted Molecular Mass</b>	58 kDa		

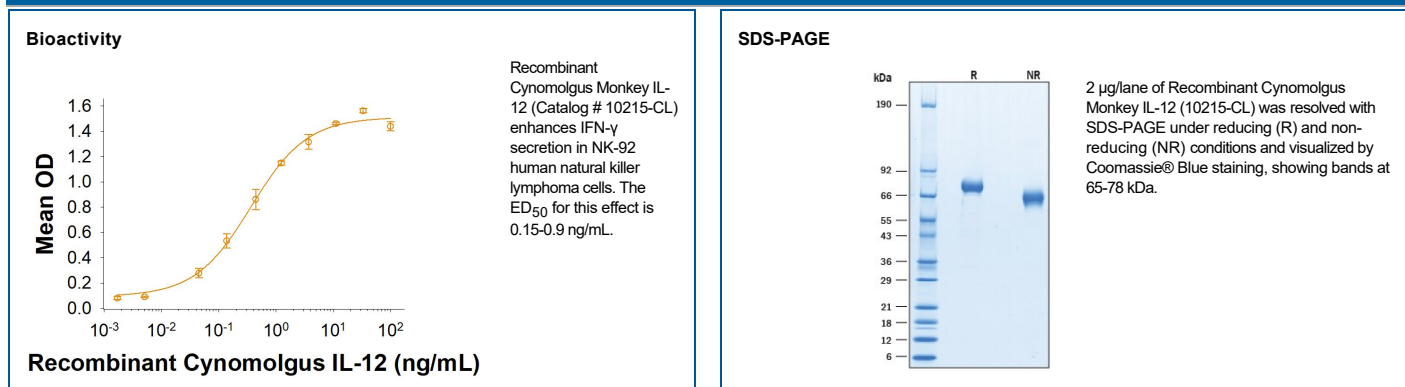
## SPECIFICATIONS

<b>SDS-PAGE</b>	65-78 kDa, under reducing conditions
<b>Activity</b>	Measured by its ability to enhance IFN- $\gamma$ secretion in NK-92 human natural killer lymphoma cells. The ED <sub>50</sub> for this effect is 0.15-0.9 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g 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 $\mu$ m filtered solution in PBS. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 100 $\mu$ g/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>	<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>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## DATA



## BACKGROUND

Interleukin 12, also known as Natural Killer Cell Stimulatory Factor (NKSF) or Cytotoxic Lymphocyte Maturation Factor (CLMF), is a heterodimeric pleiotropic cytokine made up of a 40 kDa (p40) subunit and a 35 kDa (p35) subunit (1, 2). The cynomolgus monkey p35 subunit shares 93.4% sequence identity with the human homolog, and the p40 subunit shares 96.4% identity with its human homolog. IL-12 is produced by macrophages and B lymphocytes and has been shown to have multiple effects on T cells and Natural Killer (NK) cells. Some of these IL-12 activities include the induction of IFN-gamma and TNF in resting and activated T and NK cells; the enhancement of cytotoxic activity of resting NK and T cells, the stimulation of resting T cell proliferation in the presence of a comitogen; and the enhancement of NK cell proliferation (2, 3). Current evidence indicates that IL-12 is a key mediator of cellular-immunity and induces the differentiation of Th1 cells from precursor T helper cells. Based on its activities, it has been suggested that IL-12 may have therapeutic potential as a vaccine adjuvant that promotes cellular-immunity and as an anti-tumor and anti-viral agent (1-3).

### References:

1. Hasegawa, H. *et al.* (2016) *Front. Immunol.* **7**:479.
2. Schurich, A. *et al.* (2017) *Rheumatology.* **57**:246.
3. Agarwal, P. (2009). *J Immunol.* **183**:1695.