

**DESCRIPTION**

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived	
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">                     Porcine IL-12 p40 (Ile23 - Asn324) Accession # Q28938                 </div>	
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">                     Porcine IL-12 p35 (Arg26 - Ser222) Accession # Q29053                 </div>	
	N-terminus	C-terminus

**N-terminal Sequence Analysis** Ile23 (p40) & Arg26 (p35)

**Structure / Form** Disulfide-linked heterodimer

**SPECIFICATIONS**

**SDS-PAGE** 60-70 kDa, non-reducing conditions

**Activity** Measured in a cell proliferation assay using PHA-stimulated human T lymphoblasts. Symons, J.A. *et al.* (1987) in *Lymphokines and Interferons, a Practical Approach*. Clemens, M.J. *et al.* (eds): IRL Press. 272.  
The ED<sub>50</sub> for this effect is 0.05-0.15 ng/mL.

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 100 µg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**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. 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-γ 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. 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.

Porcine IL-12 subunits p35 and p40 share about 85% homology to the human subunits, but differ by containing a 3 aa addition in the p35 subunit and a 4 aa deletion in the p40 subunit. Porcine IL-12 induces proliferation of human lymphoblasts and IFN-γ secretion by human and porcine lymph nodes. Porcine IL-12 has been detected in lymphoid tissues including inguinal and mesenteric lymph nodes, Peyer's patches, spleen and thymus.

**References:**

1. Foss, D. *et al.* (1997) *Vet. Immunol. Immunopathol.* **57**:121.