

### General Information

Synonyms	IL12; IL-12; IL-12, subunit p35; IL12A; interleukin 12, p35; cytotoxic lymphocytematuration factor 1, p35)
Accession #	P43432 (p40) & P43431 (p35)
Source	Human embryonic kidney cell, HEK293-derived mouse IL-12 protein p40 (Met23-Ser335) & p35 (Arg23-Ala215)
Predicted Molecular weight	59.9 kDa

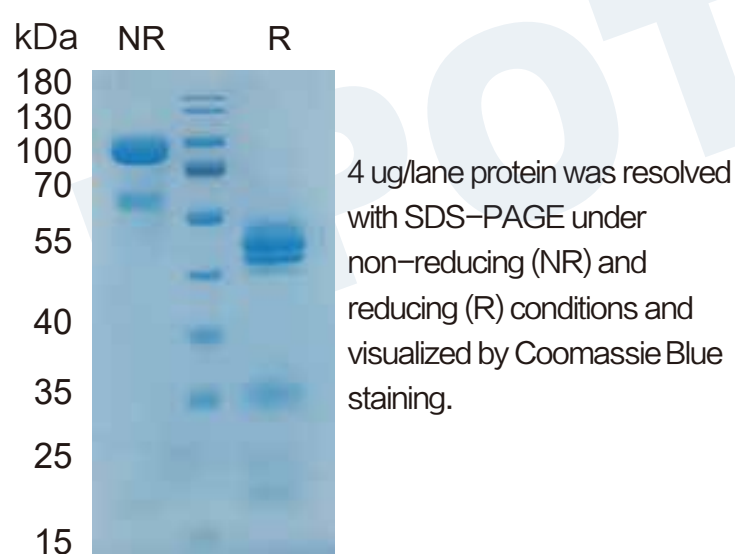
### Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 ° C as supplied.
Shipping	Shipping with dry ice

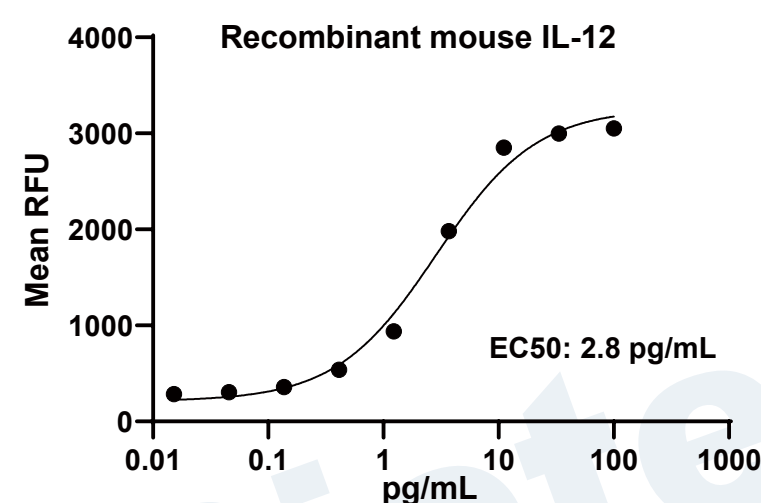
### Quality

Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in a cell proliferation assay using PHA-activated mouse splenocytes. The EC50 for this effect is 0.5-4 pg/mL.

### SDS-PAGE



### Bioactivity



Recombinant mouse IL-12 (Catalog # MF-1012) stimulates cell proliferation of the PHA-activated mouse splenocytes.

### 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- 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. 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. Human and mouse IL-12 share 70% and 60% amino acid sequence identity in their p40 and p35 subunits, respectively. While mouse IL-12 is active on both human and mouse cells, human IL-12 is not active on murine cells (1). IL-12 is a heterodimeric cytokine composed of a p35 and a p40 subunit. It is produced primarily by antigen-presenting cells (APCs) and exerts immunoregulatory effects on T and natural killer (NK) cells (2-4). Endogenous IL-12 appears to be a pre-requisite for generating optimal Th1 responses and plays a pivotal role in promoting cell-mediated immunity against intracellular pathogens (5-7).

### Reference

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5. Wolf SF. et al. (1991) J Immunol 146:3074
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