

DESCRIPTION

Source	<i>Spodoptera frugiperda</i> , Sf 21 (baculovirus)-derived	
	Mouse IL-12 p40 (Met23-Ser335) Accession # P43432	
	Mouse IL-12 p35 (Arg23-Ala215) Accession # NP_032377	
	N-terminus	C-terminus

N-terminal Sequence Analysis Met23 (p40) & Arg23 (p35)

Structure / Form Disulfide-linked heterodimer

SPECIFICATIONS

SDS-PAGE	70 kDa, non-reducing conditions
Activity	Measured in a cell proliferation assay using PHA-activated mouse splenocytes. Mattner, F. <i>et al.</i> (1993) Eur. J. Immunol. 23 :2202. The ED ₅₀ for this effect is typically 0.01-0.1 ng/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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.

DATA

<p>SDS-PAGE</p> <p>1 µg/lane of Recombinant Mouse IL-12 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing single bands at 25 kDa and 43 kDa (R) and 68 kDa (NR).</p>	<p>Bioactivity</p> <p>Recombinant Mouse IL-12 (Catalog # 419-ML/CF) stimulates cell proliferation of PHA-activated mouse splenocytes. The ED₅₀ for this effect is typically 0.01-0.1 ng/mL.</p>
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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.

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. R&D Systems' recombinant mouse IL-12 preparations were proteolytically cleaved between residues G158 and E159 of the mature p35 subunit. Thus, under reducing conditions, three bands representing the p40 subunit, the p35 R1 - G158 peptide and the p35 E159 - A193 peptide can be observed in SDS-PAGE. The biological activity of this cleaved mouse IL-12 is comparable to that of the intact human IL-12.