Recombinant Mouse IL-12
Catalog Number: 419-ML/CF

DESCRIPTION
Source  Spodoptera frugiperda, 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. et al. (1993) Eur. J. Immunol. 23:2202. The ED50 for this effect is 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  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.

DATA
Bioactivity
SDS-PAGE

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).

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.