

Revision 2

Store at -20C

#31502

# Mouse IL-12 Recombinant Protein

10 µg



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## For Research Use Only. Not For Use In Diagnostic Procedures.

**MW (kDa):**  
57.5

**UniProt ID:**  
P43431, P43432

**Entrez-Gene Id:**  
16159, 16160

### Background

Interleukin-12 (IL-12) is a heterodimeric pro-inflammatory cytokine best known for inducing IFN- $\gamma$  production in T cells and NK cells (1,2). The IL-12 family of cytokines is composed of IL-12, IL-23, IL-27, and IL-35. The predominant physiological producers of IL-12 are antigen-presenting cells (APCs), such as DCs and macrophages (3). IL-12 consists of two disulfide-linked subunits (p35 and p40) that regulate the biosynthesis of IL-12p70 (4). The effects of IL-12 are mediated through its high-affinity receptor that contains two subunits: IL-12R $\beta$ 1 and IL-12R $\beta$ 2 (3,5). Binding of IL-12 induces naive CD4<sup>+</sup> T cells to differentiate into T helper 1 (T<sub>H</sub>1) cells mainly through the activation of Stat4 (3,5). The effect that IL-12 has on innate and adaptive immunity makes it a target of interest when studying different autoimmune diseases and cancers (2).

### Endotoxin

Endotoxin levels are less than or equal to 1 EU / 1 µg mL-12.

### Purity

A greater than or equal to 95% purity was determined by SDS-PAGE.

### Source / Purification

Recombinant mouse IL-12 was expressed in genetically modified HEK293 cells and is supplied in a lyophilized form.

### Bioactivity

The bioactivity of recombinant mL-12 was determined in a secreted embryonic alkaline phosphatase (SEAP) induction assay using HEK-Blue™ IL-12 cells. The ED<sub>50</sub> of each lot is less than or equal to 15 ng/mL. HEK-Blue™ IL-12 cells were purchased from InvivoGen Inc.

### Storage

Mouse IL-12 Recombinant Protein is supplied as lyophilized material that is very stable at -20°C. It is recommended to reconstitute with sterile water at a concentration of 0.1 mg/ml which can be further diluted in aqueous solutions as needed. Addition of a carrier protein (0.1% HSA or BSA) is recommended for long-term storage.

### Background References

1. Trinchieri, G. (2003) *Nat Rev Immunol* 3, 133-46.
2. Zundler, S. and Neurath, M.F. (2015) *Cytokine Growth Factor Rev* 26, 559-68.
3. Sun, L. et al. (2015) *Cytokine* 75, 249-55.
4. Jalah, R. et al. (2013) *J Biol Chem* 288, 6763-76.
5. Floss, D.M. et al. (2016) *Mol Biol Cell* 27, 2301-16.

### APPLICATIONS KEY

**CROSS-REACTIVITY KEY** H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr:

hspc: Pork rabbit All: all species expected

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## Mouse IL-12 Recombinant Protein

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