

Product Information

Interleukin-13, human recombinant, expressed in *E. coli*

Catalog Number **I1771**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: IL-13, P600

Product Description

IL-13 is an immunoregulatory cytokine produced primarily by activated Th2 cells, and also by mast cells and NK cells.¹ It was first recognized for its effects on B cells and monocytes, where it upregulated class II expression, promoted IgE class switching, and inhibited inflammatory cytokine production.² Later, IL-13 was shown to possess other effector functions such as gastrointestinal parasite expulsion, airway hyperresponsiveness (AHR), allergic inflammation, tissue eosinophilia, mastocytosis, IgE production, goblet cell hyperplasia, tumor cell growth, intracellular parasitism, tissue remodeling, and fibrosis.³

The gene encoding human IL-13 is located on chromosome 5q 31, in the same cluster of genes encoding the cytokines IL3, IL-4, IL-5, IL-6, and GM-CSF.² Human and mouse interleukin-13 share ~58% amino acid sequence identity. Although human and mouse IL-13 are equally active on human cells, human IL-13 is much less active than mouse IL-13 on mouse cells. Human IL-13 and human IL-4 also share ~30% sequence homology and many, but not all, biological properties.^{1,2}

Recombinant human Interleukin 13 is lyophilized from a 0.2 μm filtered solution containing bovine serum albumin. It has a predicted molecular mass of ~12 kDa.

Purity: $\geq 97\%$ (SDS-PAGE)

Endotoxin: $\leq 1\text{EU}/\mu\text{g-protein}$

The biological activity of recombinant, human IL-13 is measured in a cell proliferation assay using a human factor-dependent cell line, TF-1.⁴ The EC_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the contents of the vial using sterile water to a concentration $\geq 100\text{ }\mu\text{g/mL}$. The solution can be further diluted into other aqueous solutions.

Storage/Stability

Store the lyophilized protein at $-20\text{ }^{\circ}\text{C}$.

Upon reconstitution, store at $2\text{--}8\text{ }^{\circ}\text{C}$ for up to two weeks. For extended storage, freeze in working aliquots at $-20\text{ }^{\circ}\text{C}$ for no more than one year. Repeated freezing and thawing is not recommended.

References

1. Thomson, A. et al., in: *The Cytokine Handbook*, Thomson, A., ed., Academic Press, (San Diego, CA: 1994) p. 257.
2. McKenzie, A.N. et al., Interleukin 13, a T-cell-derived cytokine that regulates human monocyte and B-cell function. *Proc. Natl. Acad. Sci. USA*, **90**, 3735-3739 (1993).
3. Wynn, T.A., IL-13 effector functions. *Annu. Rev. Immunol.*, **21**, 425-456 (2003).
4. Kitamura, T. et al., Establishment and characterization of a unique human cell line that proliferates dependently on GM-CSF, IL-3, or erythropoietin. *J. Cell Physiol.*, **140**, 323-334 (1989).

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