

## Recombinant Human Interleukin 13

Catalog Number	Size
AG130-25	25µg
AG130-B	Bulk

### *Specifications and Use*

<b>Description</b>	Recombinant human IL-13 produced in E.coli is a single, non-glycosylated, polypeptide chain containing 113 amino acids with two pairs of disulfate bond and having a molecular mass of approximately 12.3kDa.
<b>Source</b>	<i>E coli</i>
<b>Molecular Mass</b>	Approximately 12.3kDa.
<b>Purity</b>	≥97%, as determined by SDS-PAGE and HPLC method.
<b>Endotoxin Level</b>	≤1EU/µg, determined by the LAL method.
<b>Biological Activity</b>	Measured in a cell proliferation assay using TF-1 cell line. The specific activity shall be not less than $1 \times 10^6$ IU/mg.
<b>Formulation</b>	Lyophilized from a 0.2µm filtered solution in PBS containing 0.1% HSA, pH7.4.
<b>Reconstitution</b>	It is recommended that sterile PBS containing at least 0.1% human serum albumin or bovine serum albumin be added to the vial to prepare a stock solution of not less than 100µg/ml.
<b>Storage</b>	Lyophilized samples are stable for greater than six months from date of receipt at -20°C to -70°C. The reconstituted samples can be stored under sterile conditions at 2- 8°C for one month or at -20°C to -70°C for three months without detectable loss of activity. <b>Avoid repeated freeze-thaw cycles.</b>

### *Human Interleukin 13*

IL-13 is an immunoregulatory cytokine that plays a key role in the pathogenesis of allergic asthma and atopy. It is secreted by Th1 and Th2 CD4+ T cells, NK cells, visceral smooth muscle cells, eosinophils, mast cells, and basophils. IL-13 circulates as a monomer with two internal disulfide bonds that contribute to a bundled four  $\alpha$  helix configuration. Mature human IL-13 shares 57%, 59%, and 94% amino acid sequence identity with mouse, rat, and rhesus IL-13, respectively. Despite the low homology, it exhibits cross-species activity between human, mouse, and rat. IL13 has diverse activities on numerous cell types. On macrophages, IL13 suppresses the production of proinflammatory cytokines and other cytotoxic substances. On B cells, IL13 induces immunoglobulin class switching to IgE, upregulates the expression of MHC class II, CD71, CD72, and CD23, and costimulates proliferation. IL-13 upregulates IL-6 while down-regulating IL-1 and TNF $\alpha$  production by fibroblasts and endothelial cells. IL-13R- $\alpha$ 2 regulates the bioavailability of both IL-13 and IL-4 and is overexpressed in glioma and several bronchial pathologies. Compared to wild type IL-13, the atopy-associated R110Q variant of IL-13 elicits increased responsiveness from eosinophils that express low levels of IL-13R- $\alpha$ 2.

**FOR RESEARCH USE ONLY**