



## User Manual

**Interleukin-13 Variant (IL-13 Variant) (Human)**

**Cat. No. HEILP-13023**

**Description:**

Human Interleukin-13 (IL-13) is expressed by the IL13 gene located on the chromosome 5. IL-13 is a 132 amino acid protein containing a proposed 20 amino acid signal peptide, and shares approximately 30% amino acid sequence homology to human IL-4.

Additionally, the two cytokines exhibit overlapping biological activities. Human IL-13 is produced by activated Th0, Th1-like Th2-like and CD8 T cells. Similarly to IL-4, IL-13 has multiple effects on the differentiation and functions of monocytes/macrophages. IL-13 can suppress the cytotoxic functions of monocytes/macrophages. IL-13 variant is a natural variant of IL-13 and has a Q instead of R112 of wild type, which associated with increased risk for asthma development and at homozygosity associated with higher levels of serum total IgE in some allergic rhinitis patients.

**Source:**

*Escherichia coli*

**Unit:**

1 mg

**Reconstitution:**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at < -20°C. Further dilutions should be made in appropriate buffered solutions.

**Formulation:**

Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.2, with trehalose.

**Storage:**

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

### **Molecular Weight:**

Approximately 12.3 kDa, a single non-glycosylated polypeptide chain containing 112 amino acids, with a substitution of Q for R at position 112 compared with the wild type IL-13.

### **Endotoxin:**

Less than 1 EU/μg of IL-13 variant as determined by LAL method.

### **Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

### **Biological Activity:**

The ED50 determined by a cell proliferation assay using human TF-1 cells is less than 1 ng/mL, corresponding to a specific activity of  $> 1.0 \times 10^6$  IU/mg.

### **Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

### **AA Sequence:**

GPVPPSTALR ELIEELVNIT QNQQAPLCNG SMVWSINLTA GMYCAALES

INVSGCSAIE KTQRMLSGFC PHKVSAGQFS SLHVRDTKIE VAQFVKDLLL  
HLKCLFREGQ FN

**Purity:**

> 97% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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