



## IL-13 Variant, recombinant Human

Cat#NB-50-0193

### Description :

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IL-13 is an immunoregulatory cytokine produced primarily by activated Th2 cells, and also by mast cells and NK cells. Targeted deletion of IL-13 in mice resulted in impaired Th2 cell development and indicated an important role for IL-13 in the expulsion of gastrointestinal parasites. IL-13 exerts anti-inflammatory effects on monocytes and macrophages and it inhibits the expression of inflammatory cytokines such as IL-1 $\beta$ , TNF- $\alpha$ , IL-6 and IL-8. IL-13 has also been shown to enhance B cell proliferation and to induce isotype switching, resulting in increased production of IgE. Blocking of IL-13 activity inhibits the pathophysiology of asthma. Human and murine IL-13 are cross-species reactive. A variant of IL-13 shows enhanced functional activity compared with the wild type IL-13. PeptoTech's genetic variant, termed Recombinant Human IL-13 Variant, is a mature 115 amino acid protein with a substitution of Q for R at position 113. The calculated molecular weight of Recombinant Human IL-13 Variant is 12.6 kDa.

### Product information :

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**Source :** *E.coli*

**Synonyms :** Interleukin-13 Variant

**Sequence :** MSPGPVPPST ALRELIEELV NITQNQKAPL CNGSMVWSIN LTAGMYCAAL  
ESLINVSGCS AIEKTQRMLS GFCPHKVSAG QFSSLHVRDT KIEVAQFVKD  
LLLHLKKLFR EGQFN

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## Storage and handling :

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- Handling :** Centrifuge vial prior to opening. Do not vortex after reconstitution. Avoid repeated freeze-thaw cycles.
- Reconstitution:** Initially reconstitute in water to 0.5-1.0 mg/ml. Note: Allow the reconstituted vial to sit at 4°C for at  $\geq 2$  hours before use. Store at 2°C to 8°C for up to 1 week or prepare for extended storage.
- Extended Storage :** After initial reconstitution, further dilute in a buffer containing a carrier protein or stabilizer (e.g. 0.1% BSA). Store working aliquots at -20°C to -80°C.

Product Form	Temperature	Storage Time
Lyophilized	-20°C to -80°C	December 2022
Lyophilized	4°C	6 months
Lyophilized	Room Temperature	1 month
Reconstituted	2°C to 8°C	1 week
Extended Storage	-20°C to -80°C	3 months

## Specifications:

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- Formulation :** Sterile filtered through a 0.2-micron filter. Lyophilized from 0.1% TFA
- Authenticity:** Verified by N-terminal and Mass Spectrometry analyses (when applicable).
- Purity:**  $\geq 98\%$  by SDS-PAGE gel and HPLC analyses.



**Endotoxin:** Endotoxin level is  $< 0.1 \text{ ng}/\mu\text{g}$  of protein ( $< 1 \text{ EU}/\mu\text{g}$ ).

**Protein Content:** Verified by UV Spectroscopy and/or SDS-PAGE gel.

**Biological Activity:** This IL-13 analog shows a two fold increase, relative to wild type IL-13, in bioactivity as measured by the *in vitro* dose-dependent activation of STAT6 and IL-13 dependent gene induction in transfected A201.1 cells. This analog has also been shown to exhibit increased *in vivo* activity compared to wild type IL-13, as measured by the induction of airway hyper-responsiveness.