

# Recombinant Human IL-18 Protein (GMP Grade)

Please read the manual carefully before use.

**Cat. No.** PM110

**Version No.** Version 1.0

**Storage:** at -20°C for two years.

## Description

Interleukin-18 (IL-18), also known as interferon-gamma-inducing factor, is a pro-inflammatory cytokine produced by various cell types, including hematopoietic and non-hematopoietic cells<sup>[1]</sup>. The primary function of IL-18 is to induce Th1 cells to secrete interferon-gamma (IFN- $\gamma$ ). This cytokine works synergistically with IL-12 to facilitate the differentiation of Th1 cells, which is critical for the host's defense mechanisms against intracellular bacteria, viruses, and fungi<sup>[2]</sup>. The combined action of IL-18 and IL-12 can activate cytotoxic T cells and natural killer cells to produce IFN- $\gamma$ , potentially contributing to tumor immunity. The biological activity of IL-18 is not limited to these cells; it also plays a role in the development of Th17 cell responses. IL-18, in synergy with IL-23, can induce Th17 cells to secrete IL-17<sup>[3]</sup>.

## Product Information

Expressed system: CHO

Molecular weight: 18.2 kDa

Purity: > 95% by SEC-HPLC, SDS-PAGE analysis.

Endotoxin: < 10 EU/mg

Biological activity: Measured interferon gamma (IFN- $\gamma$ ) secretion using human acute myeloid leukemia cell line KG-1, ED<sub>50</sub> between 1.5-9 ng/ml.

Form: lyophilized, sterile

## Kit Content

Component	PM110-01	PM110-02	PM110-03
Recombinant Human IL-18 Protein ( GMP Grade )	10 $\mu$ g	50 $\mu$ g	1 mg

## Usage guide

Reconstitution: We recommend the vial be briefly centrifuged prior to opening. Reconstitute with sterile, distilled water on ice at a concentration no less than 100  $\mu$ g/ml.

Storage: Lyophilized preparation at -20°C, preferably desiccated. Upon reconstitution, the protein may be stored at 2°C to 8°C for up to one week. For long term storage of the reconstituted protein, apportion into working aliquots and store at -80°C for up to 12 months. Avoid repeated freeze/thaw cycles

## References

- [1] Hu B, Ren J, Luo Y, Keith B, Young RM, Scholler J, Zhao Y, June CH. Augmentation of Antitumor Immunity by Human and Mouse CAR T Cells Secreting IL-18. *Cell Rep.* 2017, 20(13):3025-3033.
- [2] Ihim SA, Abubakar SD, Zian Z, Sasaki T, Saffarioun M, Maleknia S, Azizi G. Interleukin-18 cytokine in immunity, inflammation, and autoimmunity: Biological role in induction, regulation, and treatment. *Front Immunol.* 2022, 13:919973.
- [3] Mi J, Liu Z, Pei S, Wu X, Zhao N, Jiang L, Zhang Z, Bai X. Mendelian randomization study for the roles of IL-18 and IL-1 receptor antagonist in the development of inflammatory bowel disease. *Int Immunopharmacol.* 2022, 110:109020.

**For research use only, not for clinical diagnosis.**

Version number: V1.0-202405

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