

Recombinant Human IL-18 Protein

Catalog No.: RP00006 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	3606	Q14116

Tags

No tag

Synonyms

IL18;IGIF;IL-18;IL-1g;IL1F4

Product Information

Source	Purification
<i>E. coli</i>	> 95% by SDS-PAGE.

Calculated MW	Observed MW
18.22 kDa	18 kDa

Endotoxin

< 0.1 EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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Background

Interleukin-18 (IL-18, also known as interferon-gamma inducing factor) is a proinflammatory cytokine that belongs to the IL-1 superfamily and is produced by macrophages and other cells. IL-18 activation is induced by infection or tissue damage and contributes to disease pathology in chronic inflammation. In the presence of IL-12 or IL-15, IL-18 enhances anti-viral Th1 immune responses by inducing IFN-gamma production and the cytolytic activity of CD8+ T cells and NK cells. In the absence of IL-12 or IL-15, however, IL-18 promotes production of the Th2 cytokines IL-4 and IL-13 by CD4+ T cells and basophils. In the presence of IL-1 beta or IL-23, IL-18 induces the antigen-independent production of IL-17 by gamma δ T cells and CD4+ T cells. IL-18 also promotes myeloid dendritic cell maturation and triggers neutrophil respiratory burst. In cancer, IL-18 exhibits diverse activities including enhancing anti-tumor immunity, inhibiting or promoting angiogenesis, and promoting tumor cell metastasis.

Basic Information

Description

Recombinant Human IL-18 Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Tyr37-Asp193) of human IL-18 (Accession #NP_001553.1).

Bio-Activity

1. Measured by its binding ability in a functional ELISA. Immobilized recombinant Human IL18 at 5 μg/mL (100 μL/well) can bind recombinant Human IL18BPα with a linear range of 0.156-1.372 μg/mL. 2. Measured by its ability to induce IFN-gamma secretion by KG1 human acute myelogenous leukemia cells in the presence of TNF-α (Catalog: RP00001). The ED₅₀ for this effect is 1.44-5.76 ng/mL, corresponding to a specific activity of 1.7×10⁵~6.9×10⁵ units/mg.

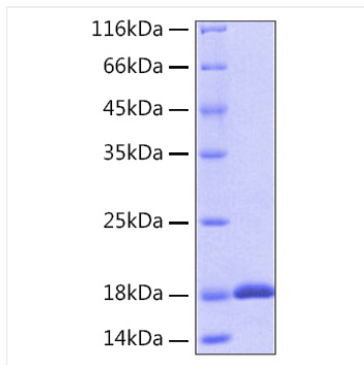
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

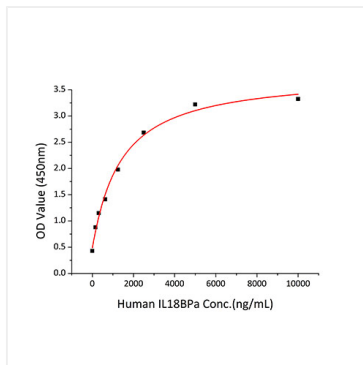
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

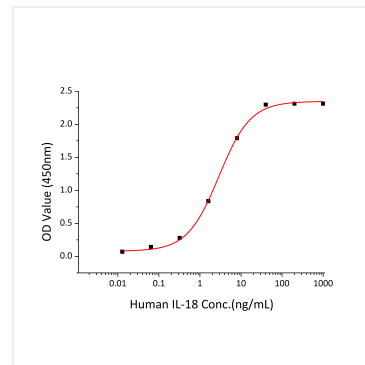
Validation Data



Recombinant Human IL-18 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 18 kDa.



Immobilized recombinant Human IL18 at 5 μ g/mL (100 μ L/well) can bind recombinant Human IL18BP α with a linear range of 0.156-1.372 μ g/mL.



Recombinant Human IL-18 induce IFN-gamma secretion by KG1 human acute myelogenous leukemia cells in the presence of TNF-alpha (Catalog: RP00001). The ED₅₀ for this effect is 1.44-5.76 ng/mL, corresponding to a specific activity of 1.7 \times 10⁵-6.9 \times 10⁵ units/mg.