

Recombinant Human Interleukin 18

Catalog Number: SJB06

 Strength: 25 μ g

Specifications and Use

- Description**
- Recombinant human IL-18 produced in yeast is a polypeptide chain containing 157 amino acids, with 4 Cys, but no disulfide bond.
- Source**
- Yeast.
- Molecular Mass**
- Approximately 18.2kD.
- Purity**
- $\geq 97\%$.
- Endotoxin Level**
- <1EU/ μ g, determined by the LAL method.
- Biological Activity**
- Induction of IFN- γ by KG-1 cell in response to the recombinant human IL-18 is measured using human IFN- γ ELISA. The activity should be as follow:

IL-18 concentration (ng/ml)	IFN- γ induction (IU/ml)
80	≥ 15
40	≥ 10

 IFN- γ producing activity of the sample cells can be varied depends on cell conditions. Optimal concentration for each application should be determined by each laboratory.
- Formulation**
- Sterile lyophilized powder, in PBS containing 0.2% HSA, pH7.4.
- Reconstitution**
- It is recommended to reconstitute the lyophilized rHuIL-18 in 0.2ml sterile water.
- Storage**
- Lyophilized samples are stable for 36 months from date of manufacture at -20 $^{\circ}$ C to -70 $^{\circ}$ C.
 - Upon reconstitution, this cytokine can be stored under sterile conditions at 2- 8 $^{\circ}$ C for one month or at -20 $^{\circ}$ C to -70 $^{\circ}$ C **in a manual defrost freezer** for three months without detectable loss of activity.
 - **Avoid repeated freeze-thaw cycles.**

Interleukin 18 (IL-18) is a cytokine which identified as a costimulatory factor for production of interferon- γ (IFN- γ) in response to toxic shock and shares functional similarities with IL-12. IL-18 is synthesized as a precursor 24-kD molecule without a signal peptide and must be cleaved to produce an active molecule. IL-1 converting enzyme (ICE, Caspase-1) cleaves pro-IL-18 at aspartic acid in the P1 position, producing the mature, bioactive peptide that is readily released from the cells. It is reported that IL-18 is produced from Kupffer cells, activated macrophages, keratinocytes, intestinal epithelial cells, osteoblasts, adrenal cortex cells and murine diencephalon. IFN- γ is produced by activated T or NK cells and plays critical roles in the defense against microbial pathogens. IFN- γ activates macrophages and enhances NK activity and B cell maturation, proliferation and Ig secretion. IFN- γ also induces expression of MHC class I and II antigens and inhibits osteoclast activation. IL-18 acts on T helper type-1 (Th1) T cells and in combination with IL-12 strongly induces them to produce IFN- γ . Pleiotropic effects of IL-18 have also been reported, such as, enhancement production of IFN- γ and GM-CSF in peripheral blood mononuclear cells, production of Th1 cytokines, IL-2, GM-CSF and IFN- γ in T cells, enhancement of Fas ligand expression by Th1 cells.

FOR LABORATORY USE ONLY.

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