

Human Interleukin 18 (IL-18)

CATALOG NUMBER: IL-18-025P, 25 µg

Introduction

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-kDa 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.

Description

Recombinant human IL-18 produced in Yeast is a glycosylated polypeptide chain containing 157 amino acids (18.3 kDa), with 4 cystine, but no disulfide bond.

Source

Yeast

Purity

≥ 97% purity (by SDS PAGE and HPLC)

Endotoxin Level

≤1 EU/mg, determined by the LAL method

Biological Activity

Induction of IFN-γ by KG-1 cell in response to the recombinant human IL-18 was measured using human IFN-γ ELISA.

The tested activity was as follow:

IL-18 concentration (ng/ml)	IFN-γ induction (IU/ml)
80	27
40	26

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

Lyophilized from a 0.2µm filtered solution in PBS containing 0.1% HSA. pH7.4
Reconstitute with double distilled water at a concentration of no less than 100 µg/ml.

Storage

Stable for 6-months from the date of shipment when kept at -20 °C or -70 °C. Upon reconstitution, it can be stored at 4 °C for at least one month or -20 °C for at least three months. Avoid repeated freeze-thaw cycles.

Usage

This product is produced for LABORATORY RESEARCH USE ONLY.