

Product Information

Interleukin-6 human (IL-6) recombinant, expressed in HEK 293 cells suitable for cell culture

Catalog Number **H7416**

Storage Temperature -20°C

Synonyms: IL6, B-cell stimulatory factor 2 (BSF-2), CTL differentiation factor (CDF), Hybridoma growth factor, Interferon beta-2 (IFN-beta2), IFNB2

Product Description

Recombinant human Interleukin 6 (IL-6) is expressed in HEK 293 cells with a calculated molecular mass of 20.8 kDa. This protein is manufactured in human cells under animal component free conditions, using an all-human production system. The human cell expression system allows human-like folding, and often supports better stability of the protein in culture. The protein is produced with no artificial tags. It is carrier-free and animal component-free.

Interleukin 6 (IL6) is a pleiotropic glycoprotein belonging to the IL-6 family of cytokines.¹ It is a multifunctional cytokine with well-defined pro and anti-inflammatory properties.² IL-6 is secreted by T cells and macrophages to stimulate immune response, e.g., during infection and after trauma, especially burns or other tissue damage leading to inflammation.³ The O-linked sugar chain of IL-6 is thought to contribute to the stability of the cytokine through polymerization suppression and/or conformational changes,⁴ exemplifying the significance of its expression in a human expression system, which allows proper glycosylation.

This product is lyophilized from a solution of PBS.

$\text{ED}_{50} \leq 2.0 \text{ ng/ml}$

The specific activity was determined by the dose-dependent stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line).

The EC_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell-based bioassay.

Purity: $\geq 95.0\%$ (SDS-PAGE)

Endotoxin level: $\leq 1.00 \text{ EU}/\mu\text{g}$

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Briefly centrifuge the vial before opening. Reconstitute in water to a concentration of 0.1 mg/mL. Do not vortex. This solution can be stored at $2-8^{\circ}\text{C}$ for up to 1 week. For extended storage, it is recommended to store in working aliquots at -20°C .

Storage/Stability

Store the lyophilized product at -20°C . The product is stable for at least 2 years as supplied.

References

1. Nakashima, K. et al., gp130 and the IL-6 family of cytokines: signaling mechanisms and thrombopoietic activities. *Semin. Hematol.*, **35**, 210-221 (1998).
2. Wolf, J. et al., Interleukin-6 and its receptors: A highly regulated and dynamic system. *Cytokine*, **70**, 11-20 (2014).
3. Cook, A.D. et al., The phenotype of inflammatory macrophages is stimulus dependent: implications for the nature of the inflammatory response. *J. Immunol.*, **171**, 4816-4823 (2003).
4. Orita, T. et al., Polypeptide and Carbohydrate Structure of Recombinant Human Interleukin-6 Produced in Chinese Hamster Ovary Cells, *J. Biochem.*, **115**, 345-350 (1994)

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