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Human Recombinant IL-6, ACF

Interleukin 6, animal component-free

Catalog #78148	20 µg
Catalog #78148.1	100 µg
Catalog #78148.2	1000 µg

Product Description

Interleukin 6 (IL-6) is a pleiotropic growth factor with the wide range of biological activities in immune regulation, hematopoiesis, and oncogenesis. IL-6 is produced by a variety of cell types including T cells, B cells, monocytes and macrophages, fibroblasts, hepatocytes, vascular endothelial cells, and various tumor cell lines. On its own or in combination with other factors such as IL-2 and interferon-γ, IL-6 stimulates the proliferation of B cells, T cells, and hybridoma cells (Hirano et al.; Mihara et al.; Tanaka et al). In combination with cytokines such as IL-3, GM-CSF and SCF, IL-6 has been shown to promote hematopoietic progenitor cell proliferation and differentiation in vitro. IL-6 signals through a cell surface type I cytokine receptor complex consisting of the ligand-binding IL-6α (CD126) and the signal-transducing gp130 subunits. The binding of IL-6 to its receptor system induces activation of JAK/STAT signaling pathway (Mihara et al.; Peters et al.; Tanaka et al.). This product is animal component-free.

Product Information

Alternative Names: B cell differentiation factor, BSF-2, IFN-β2, Interleukin-6

Accession Number: P05231

Amino Acid Sequence: MPVPPGEDSK DVAAPHRQPL TSSERIDKQI RYILDGISAL RKETCNKSNM CESSKEALAE NNLNLPKMAE KDGCFQSGFN EETCLVKIIT GLLEFEVYLE YLQNRFESSE EQARAVQMST KVLIQFLQKK AKNLDAITTP DPTTNASLLT KLQAQNQWLQ DMTTHLILRS FKEFLQSSLR ALRQM

Predicted Molecular Mass: 21 kDa

Species: Human

Product Formulation: Lyophilized from a sterile-filtered aqueous solution containing sodium phosphate, pH 7.5.

Source: E. coli

Purity: ≥ 97%

Specifications

Activity: The specific activity is ≥ 4 x 10^7 units/mg (EC50 ≤ 25 pg/mL), as determined by a cell proliferation assay using B9 cells.

Endotoxin Level: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.1 EU/µg protein.

Preparation and Storage

Stability and Storage: Store at -20 to -80°C. Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -20 to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data

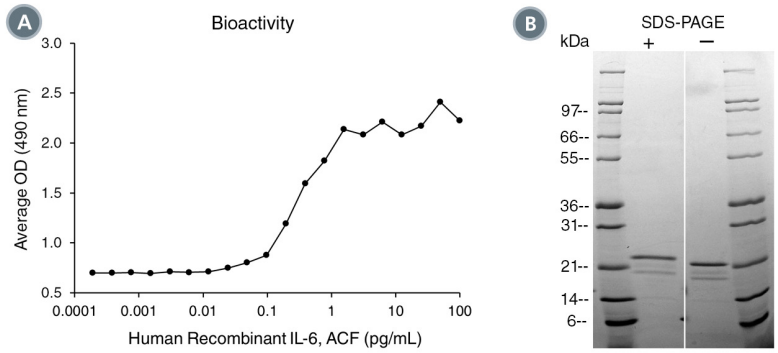

Figure 1. Biological Activity and Molecular Mass of Human Recombinant IL-6, ACF

(A) The biological activity of Human Recombinant IL-6, ACF was tested by its ability to promote the proliferation of B9 cells. The EC50 is defined as the effective concentration of the cytokine at which cell proliferation is at 50% of maximum. The EC50 in the example above is 3.31 pg/mL. (B) 1 µg of Human Recombinant IL-6, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-6, ACF has a predicted molecular mass of 21 kDa.

Related Products

For a complete list of cytokines or peptide pools, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Hirano T et al. Complementary DNA for a novel human interleukin (BSF-2) that induces B lymphocytes to produce immunoglobulin. Nature 324 (6092): 73–6.

Mihara M et al. (2012) IL-6/IL-6 receptor system and its role in physiological and pathological conditions. Clin Sci (Lond) 122(4): 143–59.

Peters M et al. (1998) Interleukin-6 and soluble interleukin-6 receptor: direct stimulation of gp130 and hematopoiesis. Blood 92(10): 3495–504.

Tanaka T et al. (2014) IL-6 in inflammation, immunity, and disease. Cold Spring Harb Perspect Biol 6(10): a016295.