

Cytokines

Human Recombinant IL-6, ACF



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Interleukin 6, animal component-free

| | | |
|-----------|---------|---------|
| Catalog # | 78148 | 20 µg |
| | 78148.1 | 100 µg |
| | 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-6 α (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

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|---------------------------|--|
| Alternative Names: | B cell differentiation factor, BSF-2, IFN- β 2, Interleukin-6 |
| Accession Number: | P05231 |
| Amino Acid Sequence: | MPVPPGEDSK DVAAPHRQPL TSSERIDKQI RYILDGIGAL RKETCNKSNM CESSKEALAE NNLNLPKMAE KDGCFQSGFN EETCLVKIIT GLLEFEVYLE YLQNRFFESSE EQARAVQMST KVLIQFLQKK AKNLDAITTP DPTTNASLLT KLQAQNQWLQ DMTTHLILRS FKEFLQSSLR ALRQM |
| Predicted Molecular Mass: | 21 kDa |
| Species: | Human |
| Cross Reactivity: | Mouse, Rat, Monkey |
| Formulation: | Lyophilized from a sterile-filtered aqueous solution containing sodium phosphate, pH 7.5. |
| Source: | E. coli |

Specifications

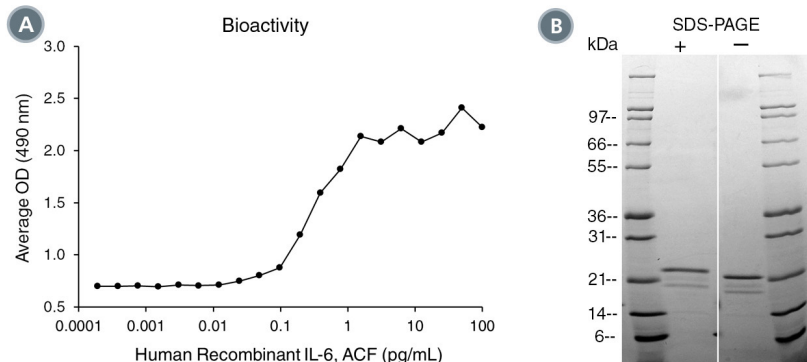
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|------------------|---|
| Activity: | The specific activity is $\geq 4 \times 10^7$ units/mg (EC50 ≤ 25 pg/mL) as determined by a cell proliferation assay using B9 cells. |
| Purity: | $\geq 95\%$ |
| Endotoxin Level: | Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/ μ g protein. |

Preparation and Storage

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|--------------|--|
| Storage: | Store at -20°C to -80°C. |
| Stability: | 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°C to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-6, ACF was tested by its ability to promote the proliferation of B9 cells. Cell proliferation was measured using a fluorometric assay method. 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, 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.

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