

Cytokines

Human Recombinant IL-6



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Catalog #78050.1	20 µg
78050	100 µg
78050.2	1000 µg

Product Description

Interleukin 6 (IL-6) is a pleiotropic growth factor with a 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. 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.). 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.

Product Information

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

Specifications

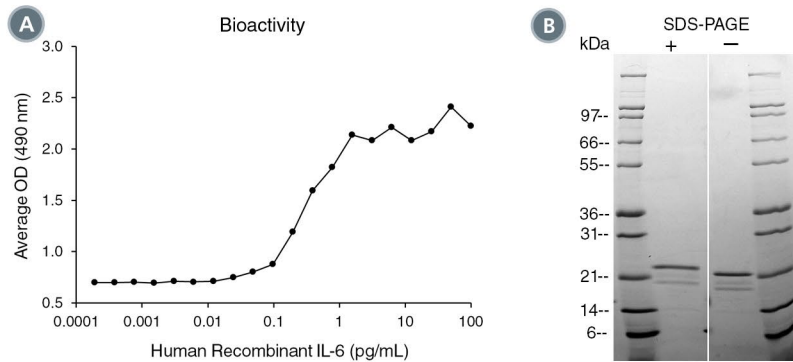
Activity:	The specific activity is $\geq 4 \times 10^7$ units/mg ($EC_{50} \leq 25$ pg/mL) as determined by a cell proliferation assay using B9 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/ μ g protein.

Preparation and Storage

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

Data



(A) The biological activity of Human Recombinant IL-6 was tested by its ability to promote the proliferation of B9 cells. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 3.31 pg/mL.

(B) 1 µg of Human Recombinant IL-6 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-6 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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