

Cytokines

Human Recombinant IL-6



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Interleukin 6

Catalog #	78050.1	20 µg
	78050	100 µg
	78050.2	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 includes activation of JAK/STAT signaling pathway (Mihara et al.; Peters et al.; Tanaka et al.).

Product Information

Alternative Names:	B cell differentiation factor, BSF-2, IFN- β 2, Interleukin-6
Accession Number:	P05231
Amino Acid Sequence:	MPVPPGEDSK DVAAPHRQPL TSSERIDKQI RYILDGISAL RKETCNKSNM CESSKEALAE>NNLNLPKMAE KDGCFQSGFN EETCLVKIIT GLLEFEVYLE YLQNRFESSE EQARAVQMST KVLIQFLQKK AKNLDAITTP DPTTNASLLT KLQAQNWQLQ DMTTHLILRS FKEFLQSSLR ALRQM
Predicted Molecular Mass:	21 kDa
Species:	Human
Cross Reactivity:	Mouse, Rat, Monkey
Formulation:	Lyophilized from a sterile filtered aqueous solution containing 0.1% trifluoroacetic acid.
Source:	E. coli

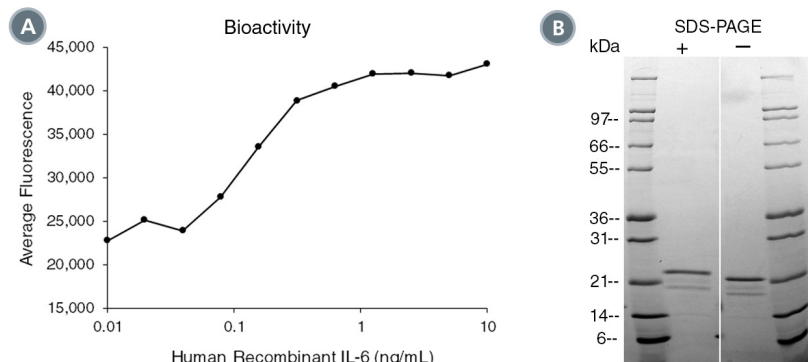
Specifications

Activity:	The specific activity is $\geq 4 \times 10^6$ units/mg ($EC_{50} \leq 0.25$ ng/mL) as determined by a cell proliferation assay using 7TD1 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/ μ g protein.

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Reconstitution:	Centrifuge vial before opening. Resuspend the product in 10 mM hydrochloric acid containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately BSA is not required.

Data



(A) The biological activity of Human Recombinant IL-6 was tested by its ability to promote the proliferation of 7TD1 cells. Cell proliferation was measured after 2 days of culture using a fluorometric assay method. 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 0.16 - 0.2 ng/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, please visit our website at 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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