

Human Interleukin-6 (IL-6) - Purified

Alternate names:	BSF-2, BSF2, CDF, HGF, HSF, IFNB2, IL6, Interferon beta-2, Interleukin 6, MGI-2A
Catalog No.:	PA1079X
Quantity:	20 µg
Background:	Cytokines of the IL6/GCSF/MGF family are glycoproteins of about 170 to 180 amino acid residues that contains four conserved cysteine residues involved in two disulphide bonds. They have a compact, globular fold (similar to other interleukins), stabilised by the 2 disulphide bonds. One half of the structure is dominated by a 4 alpha-helix bundle with a left-handed twist: the helices are anti-parallel, with 2 overhand connections, which fall into a 2-stranded anti-parallel beta-sheet. The fourth alpha-helix is important to the biological activity of the molecule . Interleukin (IL)-6 is an important proinflammatory and immunoregulatory cytokine expressed by various cells. Interleukin-6 has been shown to inhibit the growth of early stage and to promote the proliferation of advanced stage melanoma cells in vitro.
Species:	Human
Source:	E. coli
Format:	State: 0.2 µm sterile filtered, freeze-dried Purity: >98% Greater than 97.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel. Buffer System: Lyophilized from a 1.0 mg/ml solution in PBS, pH 7.4 Reconstitution: It is recommended to reconstitute the lyophilized rHuIL-6 in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.
Description:	Recombinant Human IL-6 produced in E.coli is a single, non-glycosylated polypeptide chain containing 184 amino acids and having a molecular mass of 21000 Dalton. The sequence of the first five N-terminal amino acids was determined and was found to be Met-Pro-Val-Pro-Pro. rHuIL-6 is purified by proprietary chromatographic techniques. Biological Activity: The ED₅₀ as determined by dose-dependent stimulation of murine 7TD1 cells is < 0.1 ng/ml. Molecular weight: 21 kDa
Add. Information:	Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 0.47 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a standard solution of IL-6 as a reference standard.

Storage:

Lyophilized rHuIL-6 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C.

Upon reconstitution rHuIL-6 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Avoid multiple freeze-thaw cycles.

Shelf life: one year from despatch.

General Readings:

1. Production of soluble human interleukin-6 in cytoplasm by fed-batch culture of recombinant E. coli. *Biotechnol Prog* 2005 Mar-Apr;21(2):524-31
2. Recombinant human interleukin-6 infusion during low-intensity exercise does not enhance whole body lipolysis or fat oxidation in humans. *Am J Physiol Endocrinol Metab* 2005 Jul;289(1):E2-7
3. Kaposi's sarcoma-associated herpesvirus-encoded viral interleukin-6 is secreted and modified differently than human interleukin-6: evidence for a unique autocrine signaling mechanism. *J Biol Chem* 2004 Dec 10;279(50):51793-803
4. Two novel somatic mutations in the human interleukin 6 promoter region in a patient with sporadic breast cancer. *Eur J Immunogenet* 2003 Dec;30(6):397-400
5. Cellular cholesterol depletion triggers shedding of the human interleukin-6 receptor by ADAM10 and ADAM17 (TACE). *J Biol Chem* 2003 Oct 3;278(40):38829-39
6. Effect of in situ expression of human interleukin-6 on antibody responses against *Salmonella typhimurium* antigens. *FEMS Immunol Med Microbiol* 2003 Jul 15;37(2-3):135-45